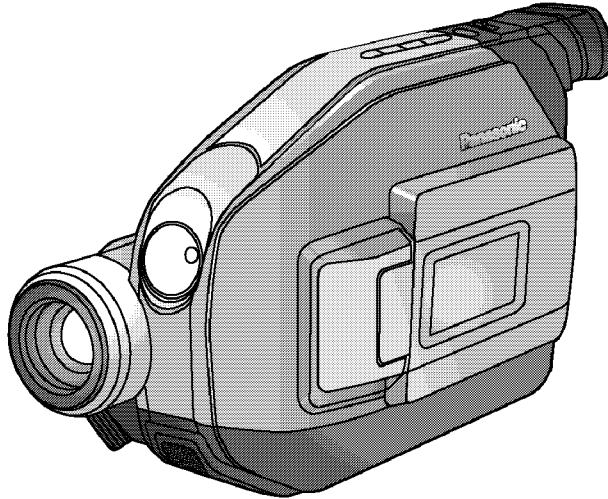


Service Manual

Compact VHS Camcorder



PV-L354
PV-L454
PV-L354-K

PbF
Solder Lead free

ITEM	SPECIFICATION	1	2	ITEM	SPECIFICATION	1	2
Power Source	Compact VHS Camcorder: DC6 V	○	○	Pick-Up System	Sequential color difference field reverse system	○	○
	AC Adaptor: 110/120/220/240 V AC, 50/60 Hz	○	○	Pick-Up Device	One integral color filter Charge Coupled Device (CCD)	○	○
	Battery: Nickel-Metal Hydride Type DC 6V / Nickel-Cadmium Type DC 6 V Nickel-Cadmium Type DC 6 V	○	○				
Power Consumption	Compact VHS Camcorder: 6 V DC 8.5 W (Max. 11.5 W) AC Adaptor: 19 W 1.2 W (when not in use.)	○	○	Lens	20 : 1 zoom lens, F1: 1.7 with auto iris control Focal length: 2.8 mm - 56.0 mm 4 speed power zoom function	○	○
Video Signal	EIA Standard (525 lines, 60 fields) NTSC color signal	○	○				
Video Recording System	Head: 2 rotary heads plus flying erase head. Helical scanning system	○	○	Viewfinder	8.4 mm (0.33 inch) Electronic Viewfinder 8.4 mm (0.33 inch) Liquid Crystal Color Electronic Viewfinder	○	—
	Signal-to-Noise Ratio: SP: more than 43 dB SLP: more than 41 dB	○	○	LCD Monitor	63.5 mm (2.5 inch) Liquid Crystal Display	○	○
	Horizontal Resolution (Color/Monochrome) Recording: more than 300 lines Playback: more than 230 lines	○	○	Minimum Illumination Required	1.6 lx (F1: 1.7) 0.16 footcandles	○	○
Audio	Head: Normal Mono: 1 stationary head	○	○	Operating Condition	0 °C~40 °C (32 °F~104 °F) (Temperature) 10 %~75 % (Humidity)	○	○
	MIC Input Level (M3 type) - 70 dB Frequency Response: Normal Mono: SP: 100 Hz - 8 kHz SLP: 100 Hz - 5 kHz	○	○	Weight	Compact VHS Camcorder: 0.874 kg (1.93 lbs.) 0.89 kg (1.96 lbs.) AC Adaptor: 0.3 kg (0.66lbs.)	○	— ○ ○
	Signal-to-Noise Ratio: Normal Mono: SP: more than 42 dB SLP: more than 40 dB						
Tape Speed	SP: 1-5/16 i.p.s (33.35 mm/s), SLP: 7/16 i.p.s (11.12 mm/s) Record/Playback Time: SP: Max. 30 min, SLP: Max. 90 min, with TC-30 Tape FF Time: Less than 7 min. (TC-30 Tape) REW Time: Less than 4 min. (TC-30 Tape)	○	○	Dimensions	Compact VHS Camcorder: 87.2 mm x 123 mm x 226 mm (W x H x D) (3-3/8 inch x 4-7/8 inch x 8-7/8 inch) (W x H x D) AC Adaptor: 68 mm x 41 mm x 140 mm (W x H x D) (2-11/16 inch x 1-5/8 inch x 5-1/2 inch) (W x H x D)	○	○
Tape Format	Tape width 0.5 inch (12.7 mm) high density tape	○	○	Solder	This model uses lead free solder (PbF).	○	○

1. PV-L354/PV-L354-K
2. PV-L454

Weight and dimensions shown are approximate.
Designs and specifications are subject to change without notice.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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1 SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by Δ in the Schematic Diagrams, Circuit Board Layout, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent, shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

2. An Isolation Transformer should always be used during the servicing of AC Adaptor whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect AC Adaptor from being damaged by accidental shorting that may occur during servicing.
3. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
5. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1 M Ω and 5.2 M Ω . When the exposed metal does not have a return path to the chassis, the reading must be infinity.

LEAKAGE CURRENT HOT CHECK

(See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5 k Ω , 10 W resistor, in parallel with a 0.15 μ F capacitor, between each exposed metallic part on the set and a good earth ground, as shown in Figure 1.
3. Use an AC voltmeter, with 1 k Ω /V or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.

6. The potential at any point should not exceed 0.75 V RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 mA. In case a measurement is outside of the limit specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

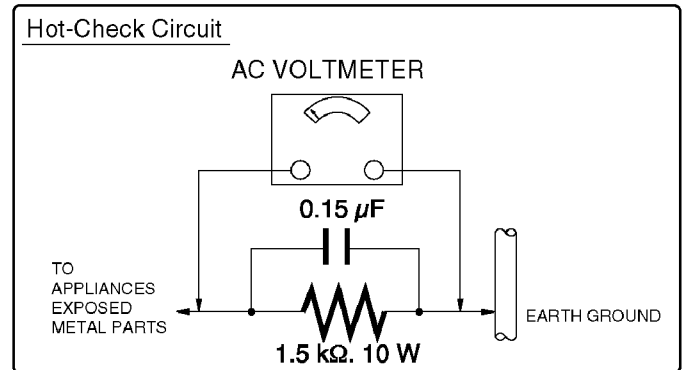


Figure. 1

2 PREVENTION OF ELECTRO STATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an antistatic solder removal device. Some solder removal devices not classified as "antistatic (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

CAUTION :

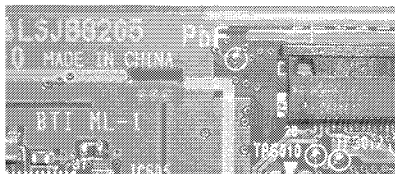
Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

3 ABOUT LEAD FREE SOLDER (PbF)

Distinction of PbF PCB:

PCBs (manufactured) using lead free solder will have a PbF stamp or printing on the PCB.
(Please refer to figures.)



Printed case

CAUTION:

- Pb free solder has a higher melting point than standard solder;
Typically the melting point is 50 °F - 70 °F (30 °C - 40 °C) higher.
Please use a soldering iron with temperature control and adjust it to 700 °F±20 °F (370 °C± 10 °C).
In case of using high temperature soldering iron, please be careful not to heat too long.
- Pb free solder will tend to splash when heated too high (about 1100 °F/600 °C).
- All products with the printed circuit board with PbF stamp or printing must be serviced with lead free solder.
When soldering or unsoldering, completely remove all of the solder from the pins or solder area,
and be sure to heat the soldering points with the lead free solder until it melts sufficiently.

Recommendations

Recommended lead free solder composition is Sn96.5 Ag3.0 Cu0.5.

4 HOW TO RECYCLE THE NICKEL CADMIUM BATTERY

This product has a fluorescent lamp that contains a small amount of mercury. It also contains lead in some components. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance: <http://www.eiae.org>.

U.S.A. CONSUMERS: ATTENTION :



A nickel cadmium battery that is recyclable powers the product you have purchased. At the end of its useful life, under various state and local laws, it is illegal to dispose of this battery into your municipal waste stream. Please call 1-800-8-BATTERY for information on how to recycle this battery.

or

U.S.A. CONSUMERS: ATTENTION :



A nickel metal hydride battery that is recyclable powers the product you have purchased. Please call 1-800-8-BATTERY for information on how to recycle this battery.

5 HOW TO REPLACE THE CLOCK BATTERY (LITHIUM BATTERY)

The clock battery is pre-installed. Follow the steps below if replacement becomes necessary.

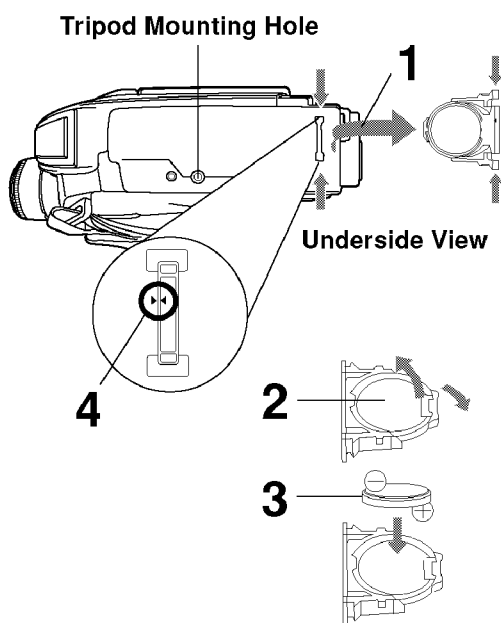
⚠ WARNING

- Replace Battery with Panasonic or LIXING type CR2025 only. Use of another battery may present a risk of fire or explosion.
- Battery may explode if mistreated.
- As with any small object, this type of Battery can be swallowed by young children. Do not allow children to handle this Battery.

⚠ CAUTION

- Dispose of used battery promptly.
- Do not recharge, disassemble or dispose of in fire.

Clock Battery



- 1** While pinching the 2 tabs, pull Battery Tray out.
- 2** Bend middle tab out and remove Battery.
- 3** Snap new Battery (⊕ mark down) into Battery Tray.
 - Do not reverse the polarity.
- 4** Insert Battery Tray so the triangle marks meet.

Note:

- Improper installation, discharge, or missing battery causes "PLEASE CHECK CLOCK BATTERY" to appear.
- Battery life is approximately 5 years.

6 SERVICE NOTES (PLEASE READ)

6.1. SERVICE NOTES

6.1.1. LCD F.F.C. (Flexible Flat Cable) CONNECTION CAUTION

(For early product PV-L354, PV-L454 only)

Be sure to connect the Flexible Flat Cable (LCD F.F.C.) to Connector FP9101 correctly as shown. Otherwise, the F1001, Q1007 and L1018 for -15 V circuit on the Main C.B.A. may be damaged.

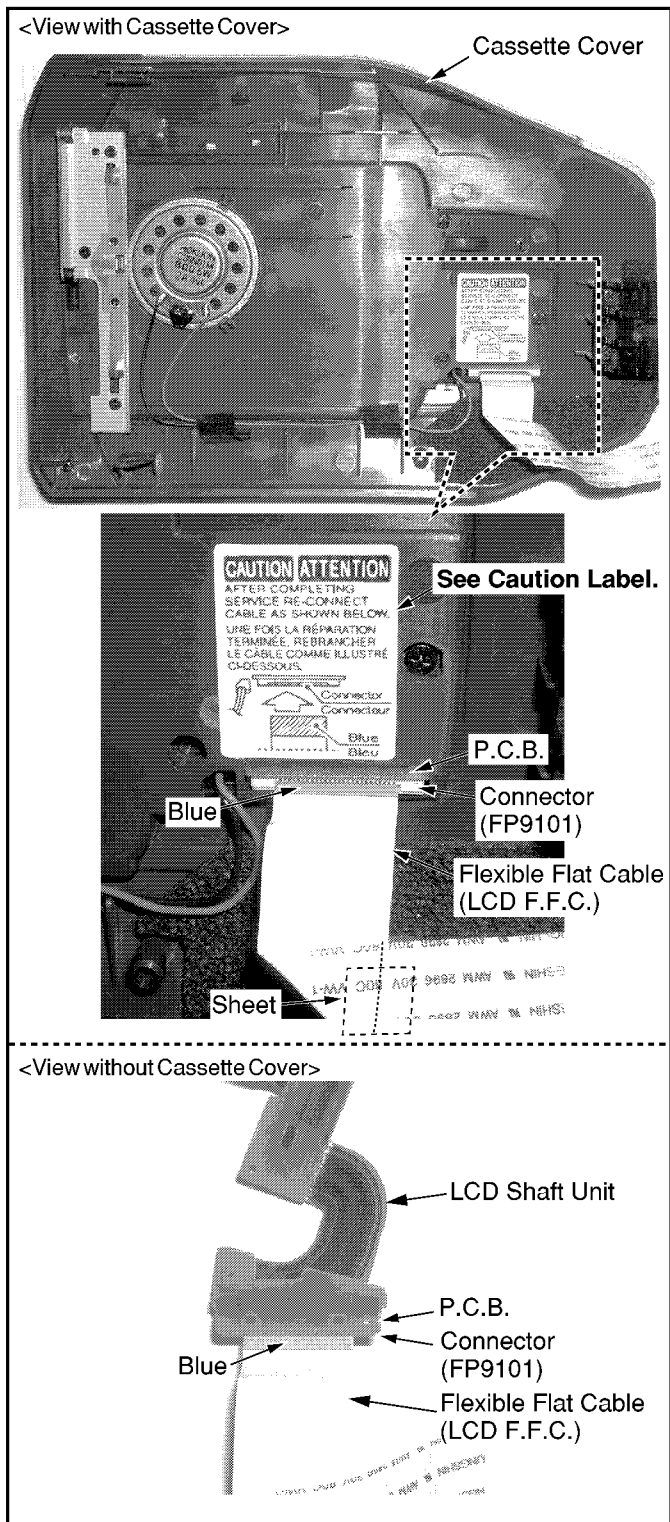


Fig. 1-1

6.1.2. CASSETTE UP UNIT REPLACEMENT CAUTION

The tab of the Cassette Up Unit has been bent when installed.

When removing the Cassette Up Unit, using pliers, straighten the tab 45° to remove the Cassette Up Unit.

When installing the Cassette Up Unit, bend the tab 45° again using pliers as shown.

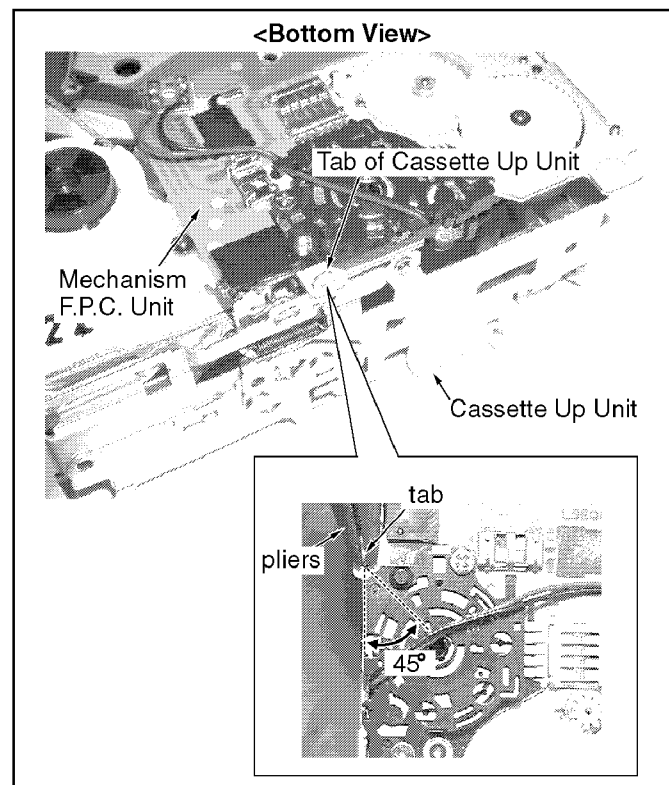


Fig. 1-2

Note:

Be careful not to break the tab off.

6.1.3. MAIN C.B.A. REPLACEMENT NOTE

To remove the Main C.B.A., the Lamp Socket Leads must be unsoldered.

When installing the Main C.B.A., solder these leads onto the Main C.B.A.

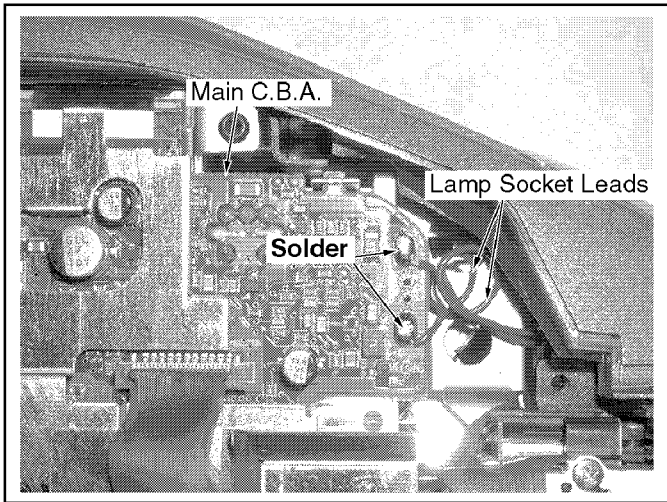


Fig. 1-3

Soldering Note:

The Lamp Socket Leads have no polarization.

6.1.4. EXTENSION CABLES FOR SERVICE

Using the following Extension Cables, place the unit as shown for check and service.

No.	PART NUMBER	PART NAME	CONNECTION
①	VUVS0007	12Pin Extension Cable	FP8 on Main C.B.A. ~ CCD F.P.C. on Lens Unit
②	VUVS0012	22Pin Extension Cable	FP9 on Main C.B.A. ~ Lens F.P.C. on Lens Unit
③	VUVS0015	28Pin Extension Cable	FP1 on Main C.B.A. ~ A/C Head/Capstan F.P.C. on VCR Mechanism Chassis Ass'y

NOTE:

1. When using the cassette tape:

a. Be sure to remove the cassette lid cover of cassette tape.

b. Be sure to install the Lock Screw to Cassette Up Unit. **After servicing, be sure to remove the Lock Screw.**

Refer to "HOW TO HOLD THE CASSETTE UP UNIT IN THE DOWN POSITION WITHOUT CASSETTE COVER INSTALLED."

c. Select the H. SAFETY DEFEAT in SERVICE MODE. Refer to "SERVICE MODE SPECIFICATION (SELF-DIAGNOSTIC SYSTEM)."

Or, remove the Shield Case and connect a silicon diode on component side of the Main C.B.A. as shown to defeat safety function.

(Since Takeup Reel sensor, located on Main C.B.A. does not work when opening Main C.B.A., the mechanism does not work (Reel lock). Therefore, make sure to defeat Safety function.)

2. Use extreme care so as not to apply any excessive pressure to the Cylinder/Head Amp F.P.C. After servicing, be sure to place it correctly. Refer to "Cylinder Unit" in "MECHANISM SECTION."

3. EVF Display always stays ON. To turn off just the LCD Display, tape down the LCD open/close SW.

4. When servicing, avoid causing a from touching the component side of the Battery Catcher C.B.A. to the Main C.B.A.

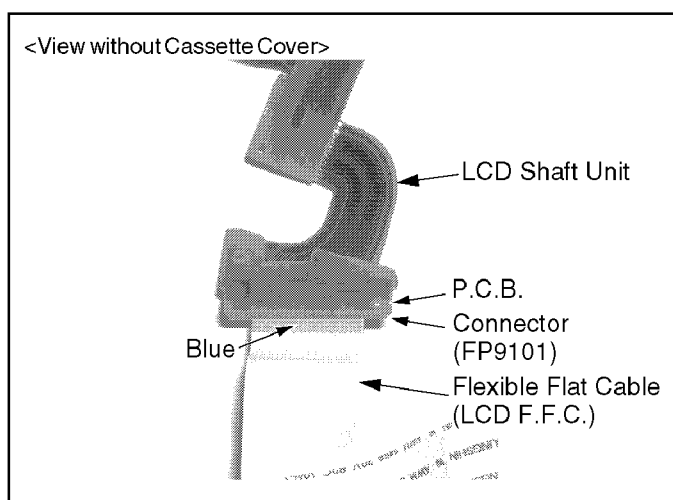
5. When servicing with the Main C.B.A. installed on the Mechanism Chassis Ass'y (Main C.B.A. in raised position), tighten 2 Screws for stability.

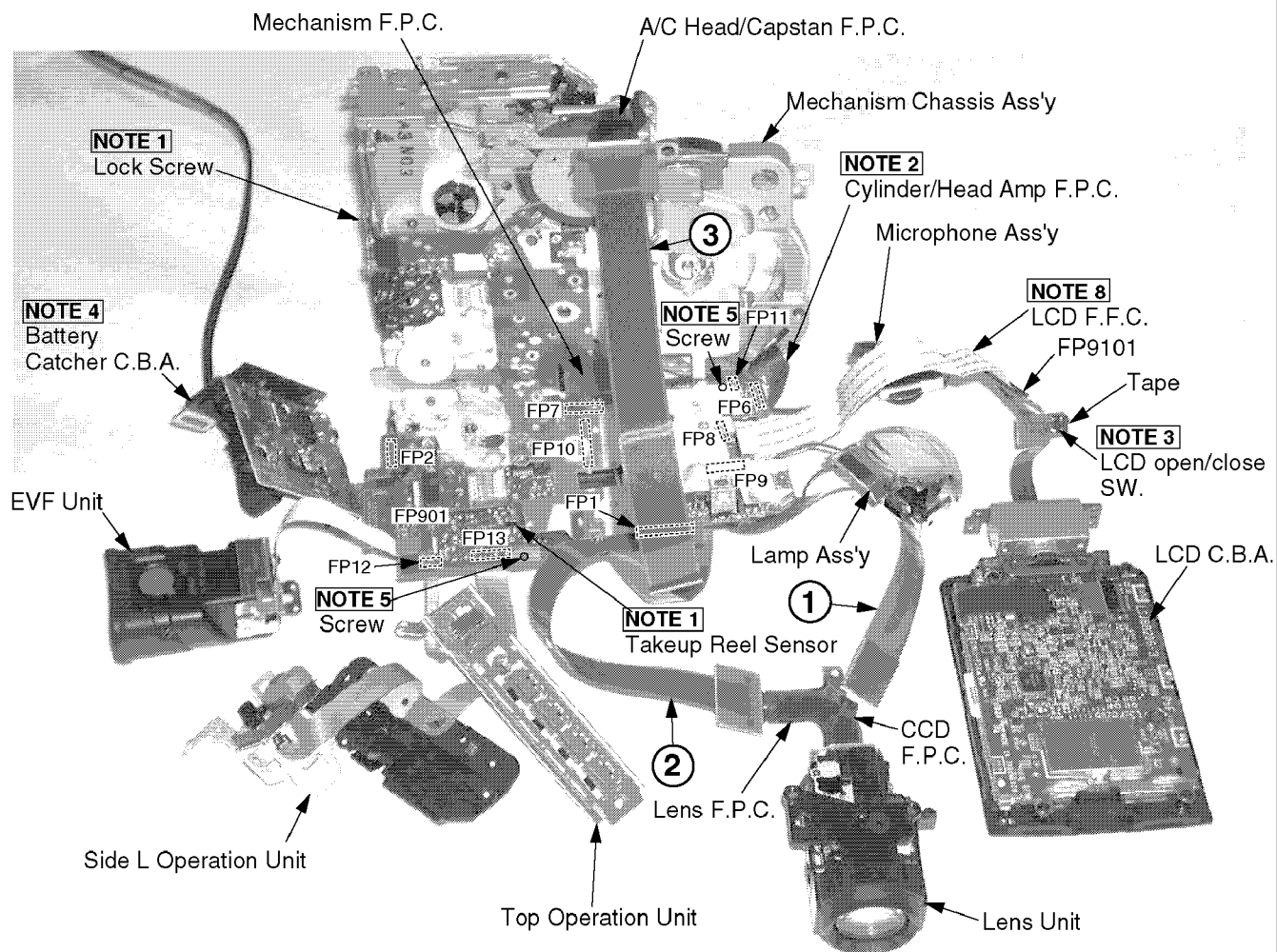
6. Use a grounded ESD wrist strap while disassembling the Lens portion.

7. Use extreme care when unplugging or plugging in connectors.

(For early product PV-L354, PV-L454 only)

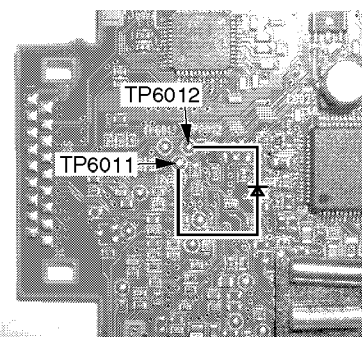
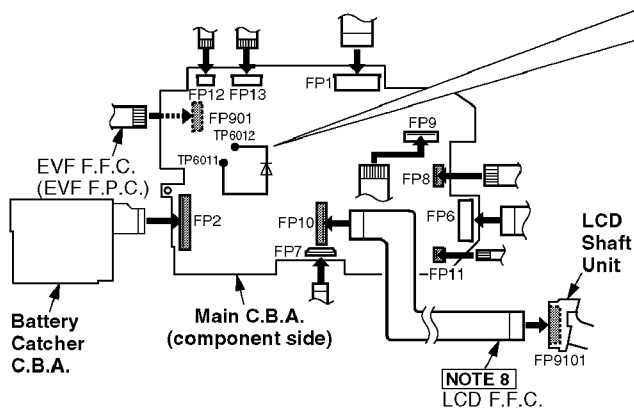
8. **CAUTION: Be sure to connect the Flexible Flat Cable (LCD F.F.C.) to Connector FP9101 correctly as shown. Refer to "LCD F.F.C. (Flexible Flat Cable) CONNECTION CAUTION" in Service Notes. Otherwise, the F1001, Q1007 and L1018 for -15 V circuit on the Main C.B.A. may be damaged.**





Non ZIF connectors are on the Main C.B.A., the Battery Catcher C.B.A. and the LCD Shaft Unit as shown in gray.

<Direction of F.P.C.s connection>



<Component side>

NOTE 1.c.

Installation of Diode:

Connect a widely used silicon diode, (e.g. MA165 or WG713A) between TP6011 and TP6012 on component side of the Main C.B.A. After servicing, be sure to remove this diode.

Fig. 1-4

6.1.5. HOW TO HOLD THE CASSETTE UP UNIT IN THE DOWN POSITION WITHOUT CASSETTE COVER INSTALLED

The Cassette Up Unit will be in the up position without the Cassette Cover installed.

To hold the Cassette Up Unit in the down position without it, a Lock Screw is needed.

Lock Screw (VHDW0125)



A Lock Screw is supplied as a service fixture.

6.1.5.1. How to install the Lock Screw:

1. If the Lock Lever, shown in gray, is set to Position "A" (No hole), change Position "A" (No hole) to Position "B" (Hole) as shown in Fig. 2-2 by pushing Portion (a) as shown in Fig. 2-1.

Note:

If the mechanism is in EJECT position, the Lock Lever cannot be changed to Position "B" by pushing Portion (a). In this case, apply power to set the mechanism to STOP position.

(with Cabinet Parts)

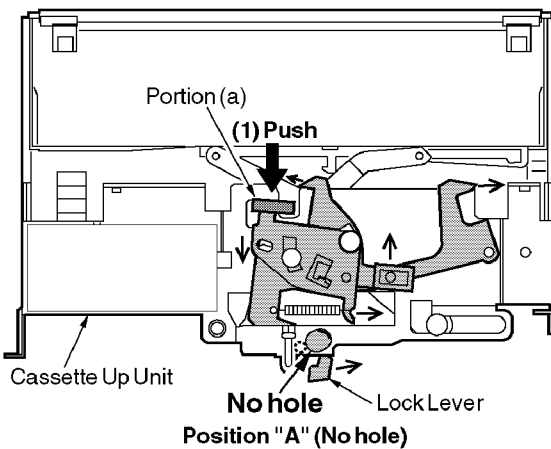
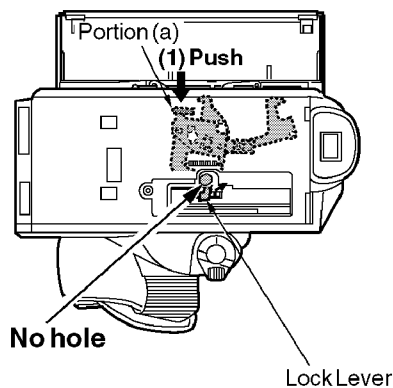


Fig. 2-1

(with Cabinet Parts)

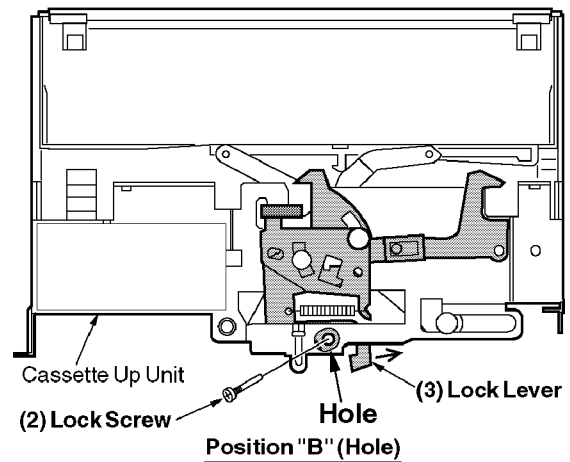
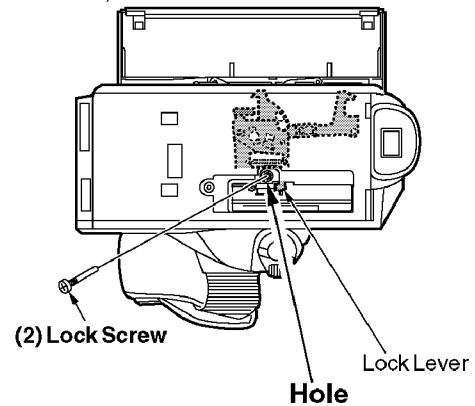


Fig. 2-2

2. Install the Lock Screw in the Hole (Threaded Hole for Lock Screw access) in Position "B".
3. Hold down the Cassette Up Unit and confirm that the Cassette Up Unit will stay in the down position.

Note:

If the Cassette Up Unit will not stay in the down position, slide the Lock Lever to the right slightly.

6.1.5.2. Lock Screw is required when:

1. performing "TAPE INTERCHANGEABILITY ADJUSTMENT."
2. servicing **with cassette tape** in Service Position. The procedure below is required when the unit is in safety defeat mode.
 - a. Confirm that the Lock Lever, shown in gray, is set to Position "A" as shown in Fig. 2-1, and that the mechanism is in the STOP position.
 - b. Insert the cassette tape.
 - c. Push Portion (a) as shown in Fig. 2-1 while keeping the Cassette Up Unit in the down position so the mechanism starts loading. (Cassette Down Switch is ON.)

CAUTION:

1. After servicing, be sure to remove the Lock Screw.
2. The replacement Cassette Up Unit and Mechanism Chassis Ass'y are supplied with a Lock Screw installed. Make sure to remove this Lock Screw when replacing them.

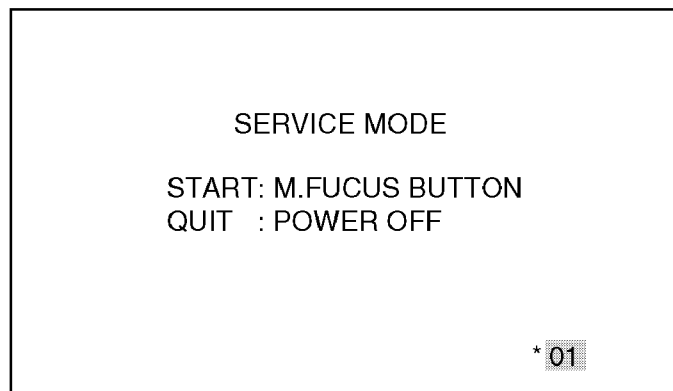
6.1.6. SERVICE MODE SPECIFICATION (SELF-DIAGNOSTIC SYSTEM)

Operation:

1. Start-up: Press and hold all of the **M.Focus**, **REC**, and **Stop** buttons over 2 seconds, the unit goes into the self- diagnostic mode and main menu appears.
2. Mode Selection: Press M.Focus button to change and select self-diagnose mode.
3. Close: Turn off the Power Switch.

Display : Following descriptions can be displayed on EVF and TV monitor at the same time.

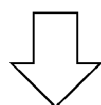
1. Main Menu



Press and hold all of the M.Focus, REC and Stop buttons over 2 seconds. The Main Menu appears on E.V.F. and TV monitor.

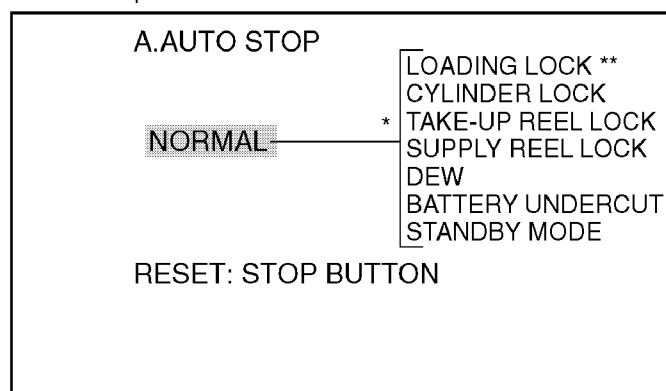
* This figure stands for the Model No. of camcorder as shown.

MODEL NO.	PV-L354	PV-L354-K	PV-L454
* Figure	01	02	10



M.FOCUS BUTTON

2. Auto Stop

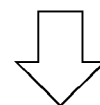


When the unit suddenly shuts off, It is possible to see the cause description in this menu. Even if the AC adaptor or battery is disconnected, the most recent failure will be memorized. Pressing the Stop button at this time will reset the memory.

* Cause descriptions can be displayed until power shuts off.

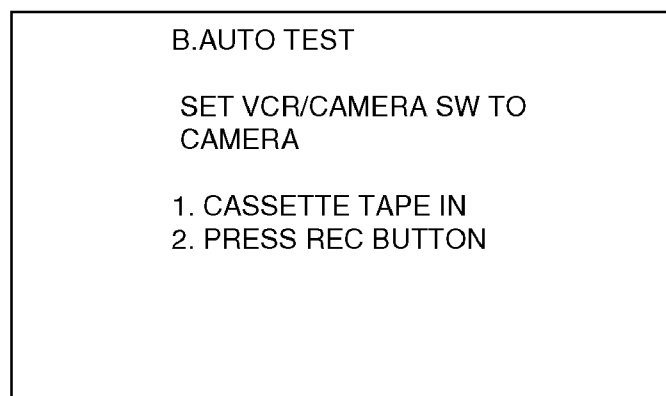
** LOADING LOCK --- EJECT
STOP
STBY
REC / PB

(When it is possible to detect the lock position, loading lock position can be displayed.)

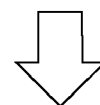


M.FOCUS BUTTON

3. Auto Test



- a. Cassette tape in and press REC button.
- b. The unit operates automatically on tests.



REC BUTTON

B.AUTO TEST

- REC
- REVIEW
- PLAY
- REC PAUSE

- a. Automatically operates REC (30sec), REVIEW, PLAY, and STOP.
- b. Displays the test status while auto test is progressing.
(■ Mark shows the test status.)



AUTO

B.AUTO TEST

NORMAL

Displays the test result.

LOADING LOCK **
CYLINDER LOCK
* TAKE-UP REEL LOCK
SUPPLY REEL LOCK
DEW
BATTERY UNDERCUT
STANDBY MODE

* Cause descriptions can be displayed until power shuts off.

** LOADING LOCK --- EJECT
STOP
STBY
REC / PB

(When it is possible to detect the lock position, loading lock position can be displayed.)



M.FOCUS BUTTON

4. Motor Control Signal Check

C.SIGNAL TEST

CAPSTAN(M)	: STOP	— FWD, REV
CYLINDER(M)	: ON	— OFF
LOADING(M)	: STOP	— FWD, REV
ZOOM(M)	: STOP	— WIDE, TELE
FOCUS(M)	: STOP	— FAR, NEAR
IRIS(F NO.)	: 7F	— NO.*
CASSETTE SW	: DOWN	— UP
SAFETY TAB SW	: OK	— BRK

Displays all of motor drive signals and switch inputs from mechanism chassis.

* Iris No. display



M.FOCUS BUTTON

5. Operation Button Test - VCR

D.OPERATION TEST-VCR

PRESS BUTTON

STOP : OFF	EJECT : OFF	ON
REC : OFF	UP : OFF	
REW : OFF	DOWN : OFF	
FF : OFF	PLAY : OFF	
MENU : OFF	LIGHT : OFF	
VCR/CAMERA: VCR		CAMERA

Tests connection of VCR operation buttons by pressing each button.



M.FOCUS BUTTON

6. Operation Button Test - Camera

E.OPERATION TEST-CAMERA

SET VCR/CAMERA SW TO
CAMERA BEFORE CHECK

TELE : OFF	WIDE : OFF	ON
------------	------------	----

Tests connection of camera operation buttons by pressing each button.



M.FOCUS BUTTON

7. Loading Test

F.LOADING TEST

SET VCR/CAMERA SW
TO VCR

START: REC BUTTON
QUIT : STOP BUTTON

Repeats loading / unloading 10 times without tape to check loading mechanism.



M.FOCUS BUTTON

8. Mechanism Position

G.MECHANISM POSITION

- EJECT
- STOP STANDBY
- STANDBY
- REC/PLAY/FF

Displays mechanism position by monitoring mode switch.
(■ mark shows the current mechanism position.)



M.FOCUS BUTTON

9. Safety Defeat

H.SAFETY DEFEAT

SET VCR/CAMERA SW
TO VCR

1.CLOSE CASSETTE DOOR
WITHOUT TAPE

2.PRESS OPERATION
BUTTONS

- a. Defeats following safety functions. Cylinder lock, Reel lock, End of tape, Battery under cut, Safety tab switch.
- b. It is possible to check mechanism movement without tape by pressing operation buttons in this mode.

Another Method to put the unit into Safety Defeat mode:
Connect a silicon diode between TP6011 and TP6012 on component side of the Main C.B.A.
Refer to "EXTENSION CABLES FOR SERVICE" in "SERVICE NOTES."



M.FOCUS BUTTON

10. Tracking Fix

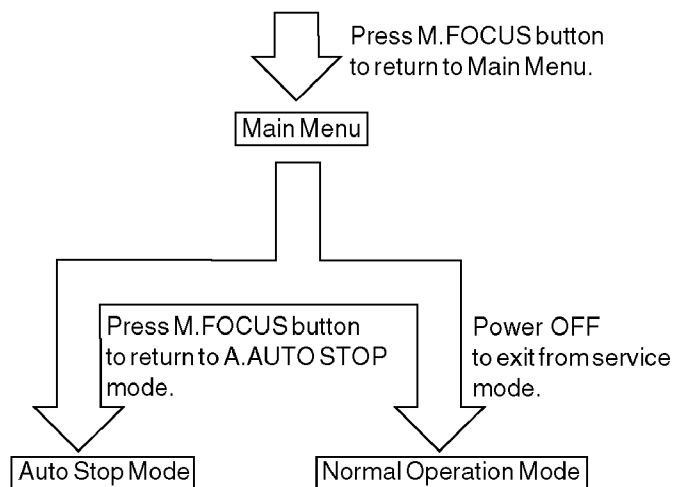
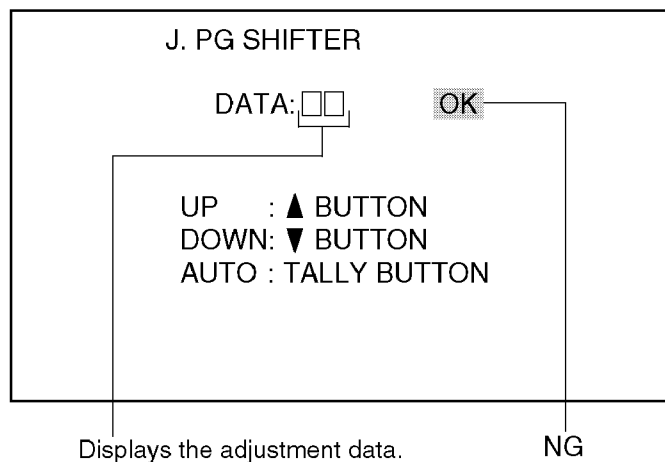
I. TRACKING FIX

Functions to fix tracking position to its center for tape path alignment.



M.FOCUS BUTTON

11. PG Shifter



This is a function to adjust Head Switching Position (PG SHIFTER) without using the Personal Computer. Perform adjustment procedure (AUTO) or (MANUAL). To adjust with this function, the TP Board, Audio/Video cable, oscilloscope, and VHS-C Alignment Tape (VFMS0004H6C) are necessary. For connecting TP Board, refer to "HOW TO USE TP BOARD" in SERVICE NOTES.

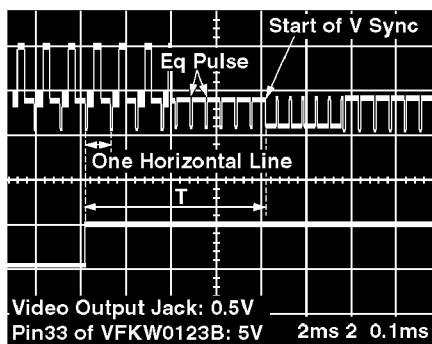
Adjustment procedure (AUTO)

1. Insert the VHS-C Alignment Tape to the camcorder.
2. Press PLAY button.
3. Press TALLY (REC) button while playing back. Head Switching Position (PG SHIFTER) will be adjusted automatically.
4. "OK" indicator will be displayed on EVF.

Note:

If "NG" indicator is displayed, adjust again.

5. Confirm that T is $6.5 \text{ H} \pm 0.5 \text{ H}$ (approx. 0.4 ms) as shown.

**Adjustment procedure (MANUAL)**

1. Perform steps 1 ~ 2 in Adjustment procedure (AUTO).
2. Press UP or Down button while playing back so that T is $6.5 \text{ H} \pm 0.5 \text{ H}$ (approx. 0.4 ms).

6.1.7. REMOVAL/INSTALLATION OF F.P.C. FROM NON ZIF (ZERO INSERTION FORCE) CONNECTOR

Removal/Installation of F.P.C. from the Non ZIF (Zero Insertion Force) connector:

1. The Non ZIF connectors and the ZIF connectors are used on the unit. And there are 2 types (Type A, Type B) of Non ZIF connectors.
2. To remove the F.P.C. from the Non ZIF connector, use the Plier for Non ZIF Connector (LSVQ0028) to pull out the F.P.C. as shown. The same Plier for Non ZIF Connector (LSVQ0028) should also be used to install the F.P.C. to the Non ZIF Connector.

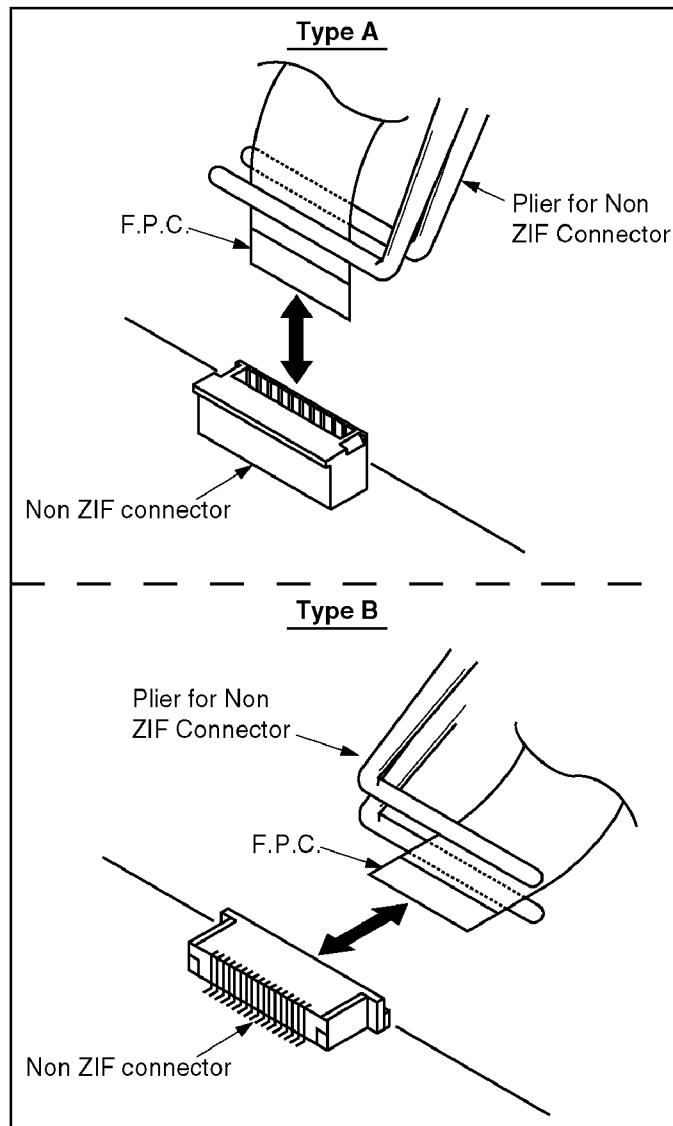


Fig. 3-1

3. Connect the F.P.C.s to the Non ZIF connectors, verifying the direction of F.P.C as shown.

Non ZIF connectors are on the Main C.B.A., the Battery Catcher C.B.A. and the LCD Shaft Unit as shown in gray.

<Direction of F.P.C.s connection>

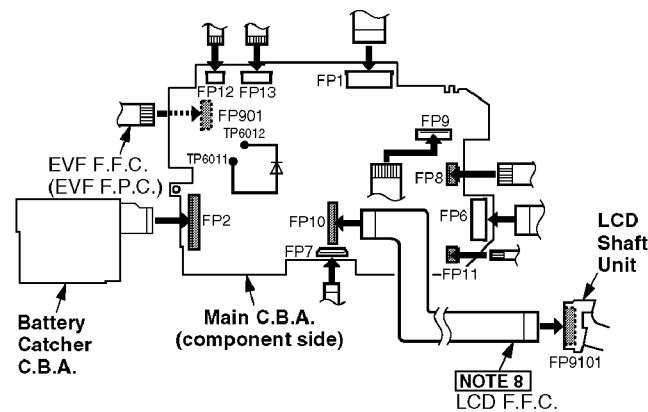


Fig. 3-2

6.1.8. METHOD FOR LOADING/UNLOADING OF MECHANISM

6.1.8.1. (Electrical Method)

CAUTION:

If loading does not start after DC Power Supply is applied, DO NOT continue to applying DC Power Supply.

Connect the TP Board as shown, and apply 3 VDC Power Supply (DC (+) to TP21, DC (-) to TP20 for loading or DC (+) to TP20, DC (-) to TP21 for unloading). Refer to "HOW TO USE TP BOARD."

It normally takes approx. 6 seconds to unload the Mechanism from fully-loaded position to EJECT position.

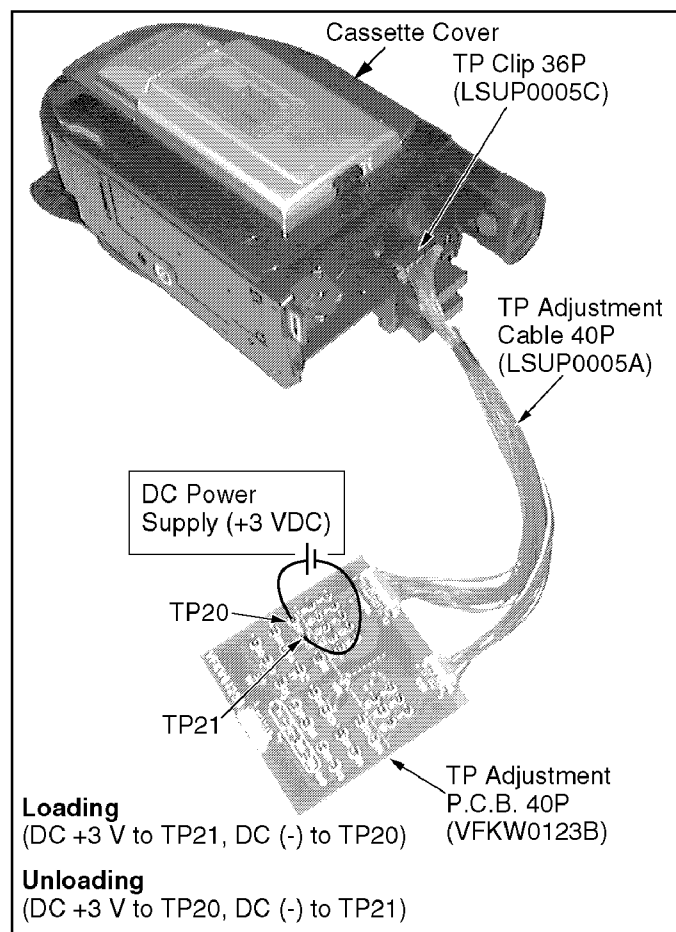


Fig. 4-1

6.1.8.2. (Manual Method) without Cabinet Parts

Turn the Gear of Reduction Gear Unit clockwise (for loading) or counterclockwise (for unloading) manually.

It is necessary to rotate approx. 80 times from fully-loaded position to EJECT position.

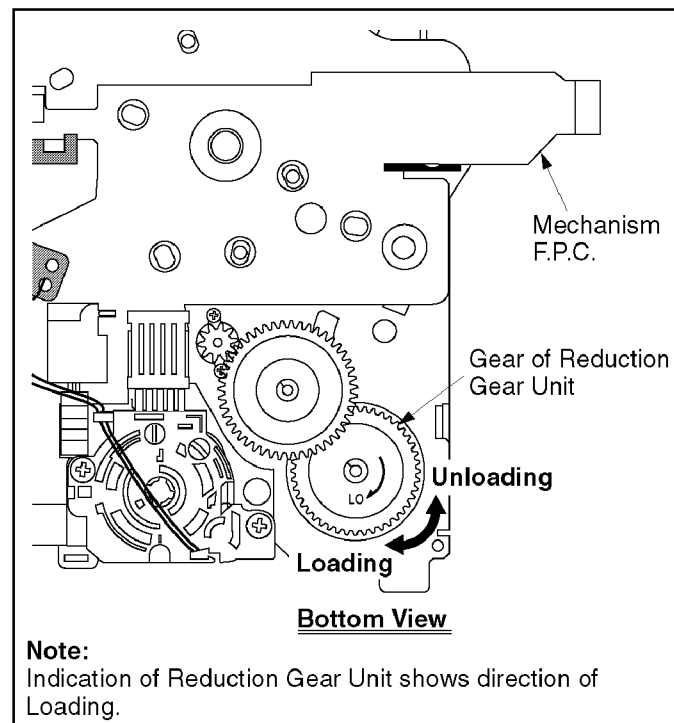


Fig. 4-2

6.1.9. HOW TO REMOVE A JAMMED TAPE

CAUTION:

If loading does not start after DC Power Supply is applied,
DO NOT continue applying DC Power Supply.

Remove a jammed tape as follows:

1. Remove a Screw and remove the EVR Cover.

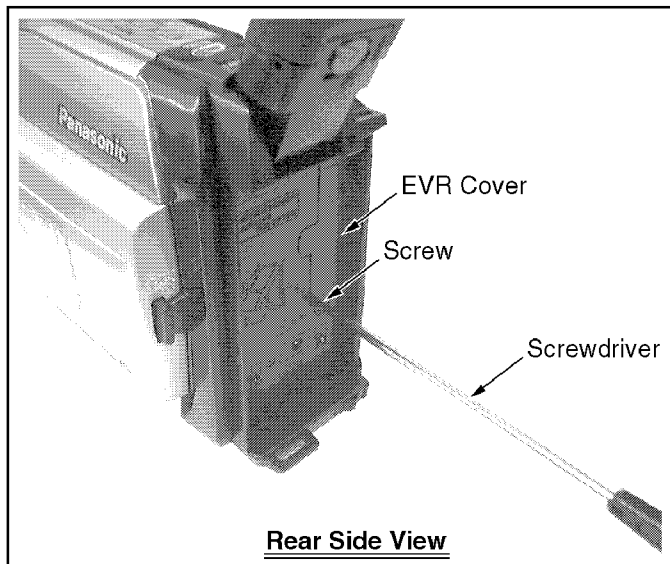


Fig. 5-1

2. Place the unit with the Cassette Cover facing upward.
3. Connect the TP Board through the TP Board slot.
4. Apply +3VDC Power Supply to TP20 (+) and TP21 (-) on the TP Board to unload the mechanism. It normally takes approx. 6 seconds to unload the Mechanism to EJECT position. Then, remove the Power Supply and remove the TP Board.

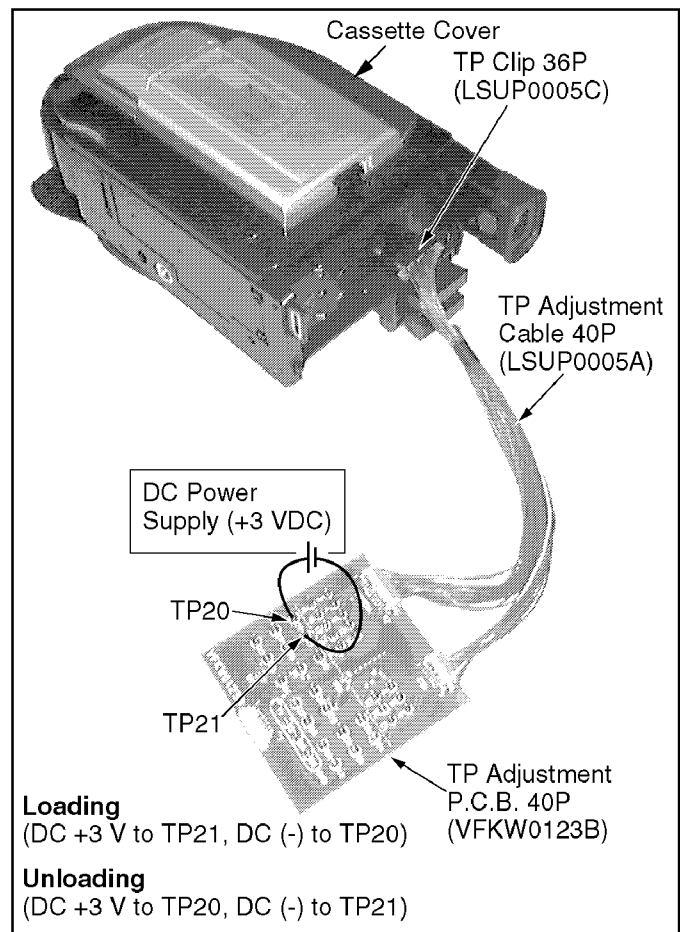


Fig. 5-2

5. Open the Cassette Cover fully.
6. Remove the tape slack by rotating the Takeup Reel Gear of the cassette tape.

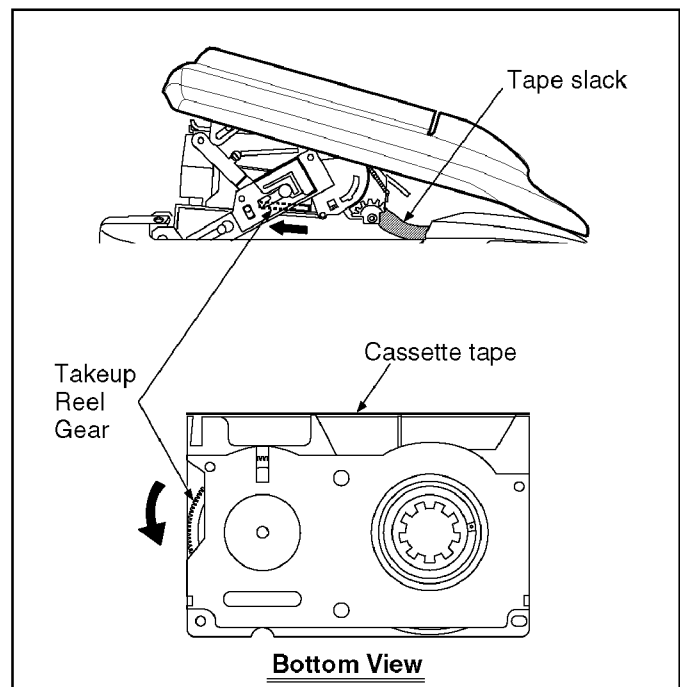


Fig. 5-3

7. Take out the cassette tape.
8. Connect the Power or Battery to set the Mechanism to STOP Position.

6.1.10. HOW TO USE TP BOARD

6.1.10.1. TP Board is required when:

1. performing "TAPE INTERCHANGEABILITY ADJUSTMENT."
2. performing "PC-EVR Adjustment."
3. the cassette tape is jammed. Refer to "HOW TO REMOVE A JAMMED TAPE."
4. loading or unloading the Mechanism (Electrical Method).
5. performing a signal check.

6.1.10.2. How to assemble TP Board:

1. Assemble the TP Board as shown.

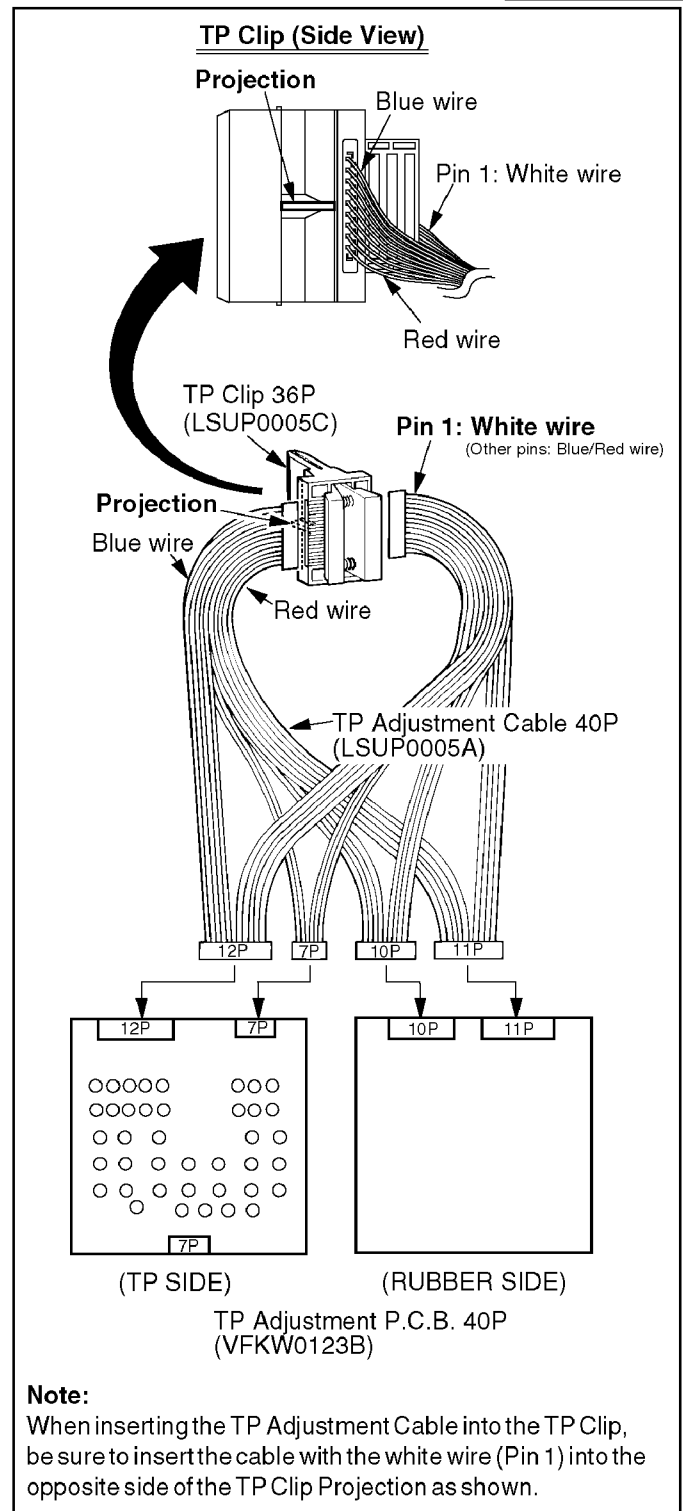


Fig. 6-1

6.1.10.3. How to connect TP Board to Camcorder:

1. Connect the TP Board to Camcorder as shown.

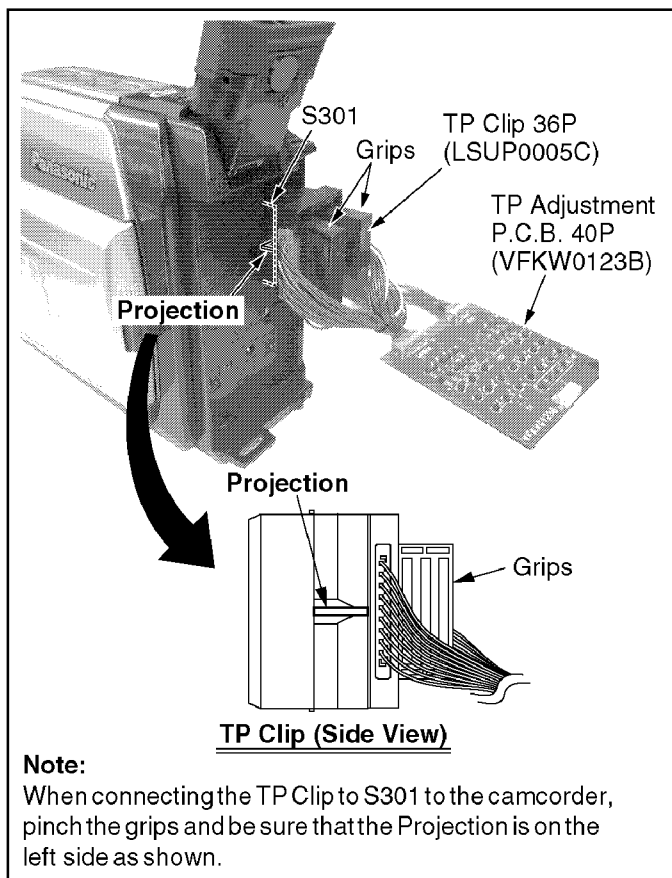


Fig. 6-2

6.1.10.4. Signal description on TP Adjustment P.C.B. 40P (VFKW0123B)

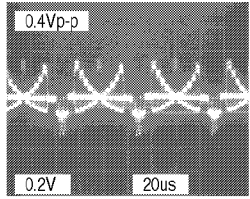
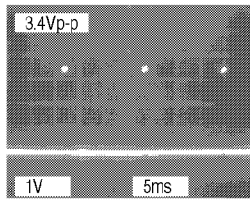
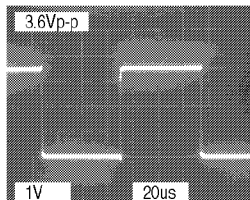
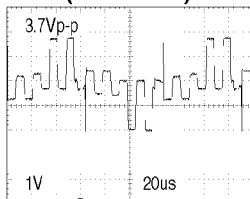
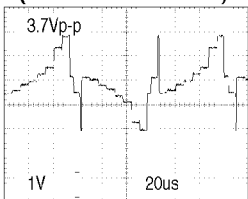
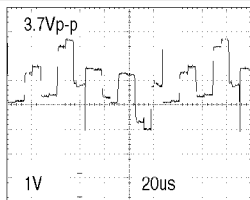
Pin No.	Signal Name	Description	Waveforms
1	GND	Grounding terminal	-----
2	IRIS	To monitor IRIS at Pin 33 of IC605 on Main C.B.A.	 0.4Vp-p 0.2V 20us Camera Mode (Gray Scale Chart)
3	GND	Grounding terminal	-----
4	Not used	-----	-----
5	Not used	-----	-----
6	EVR MODE (L)	EVR mode select: low	-----
7	CAM +4.5 V	Power terminal	-----
8	EVR SERIAL DATA 1	Serial data output from PC to camcorder	-----
9	V-SYNC	To monitor V sync signal at Pin 56 of IC301 on Main C.B.A.	 3.4Vp-p 1V 5ms Camera Mode
10	EVR SERIAL DATA 0	Serial data output from camcorder to PC	-----
11	CAMERA RESET (L)	Camera microcontroller reset: low	-----
12	Not used	-----	-----
13	EVR SERIAL CLOCK	Serial clock between PC and camcorder	-----
14	EVF-VCOM	(For model with Monochrome EVF) To monitor VCOM signal at Pin 30 of IC901 on Main C.B.A. (For model with Color EVF) To monitor VCOM signal at Pin 38 of IC901 on Main C.B.A.	 3.6Vp-p 1V 20us Rec/PB Mode (Color Bar Chart)
15	Not used	-----	-----
16	EVF LUMINANCE EVF-Blue	(For model with Monochrome EVF) To monitor EVF luminance signal at Pin 34 of IC901 on Main C.B.A. (For model with Color EVF) To monitor EVF blue signal at Pin 40 of IC901 on Main C.B.A.	(Color EVF)  3.7Vp-p 1V 20us Rec/PB Mode (Color Bar Chart) (Monochrome EVF)  3.7Vp-p 1V 20us Rec/PB Mode (Color Bar Chart)
17	EVF-Green	(For model with Color EVF) To monitor EVF green signal at Pin 43 of IC901 on Main C.B.A.	 3.7Vp-p 1V 20us Rec/PB Mode (Color Bar Chart)

Fig. 6-3-1

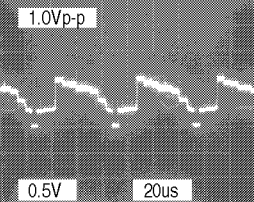
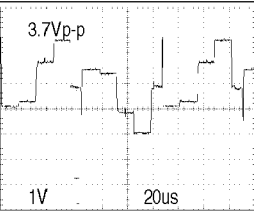
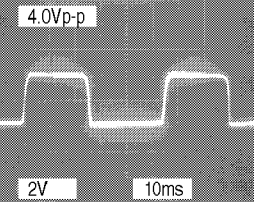
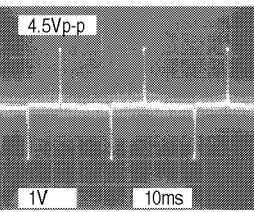
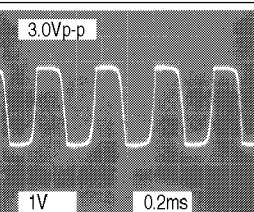
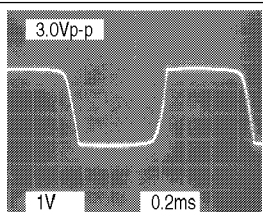
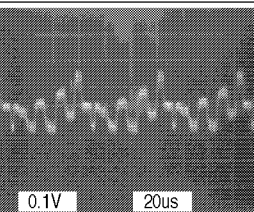
Pin No.	Signal Name	Description	Waveforms
18	LUMINANCE	To monitor luminance signal at Pin 120 of IC301 on Main C.B.A.	 1.0Vp-p 0.5V 20us Camera Mode (Color Bar Chart)
19	EVF-Red	(For model with Color EVF) To monitor EVF red signal at Pin 45 of IC901 on Main C.B.A.	 3.7Vp-p 1V 20us Rec/PB Mode (Color Bar Chart)
20	LOADING MOTOR 0	To monitor supply voltage to loading motor (+4.5 V or GND)	-----
21	LOADING MOTOR 1	To monitor supply voltage to loading motor (+4.5 V or GND)	-----
22	SUPPLY REEL PULSE	To monitor supply reel pulse at Pin 80 of IC6001 on Main C.B.A.	 4.0Vp-p 2V 10ms
23	Not used	-----	-----
24	Not used	-----	-----
25	PB CTL PULSE	To monitor PB control pulse at Pin 76 of IC6001 on Main C.B.A.	 4.5Vp-p 1V 10ms PB Mode
26	SUPPLY PHOTO TR (L)	To monitor Supply Photo TR signal (TR on: low)	-----
27	CAP FG	To monitor capstan FG signal at Pin 67 of IC6001 on Main C.B.A. (SP: 2155 Hz, SLP: 719 Hz)	 3.0Vp-p 1V 0.2ms PB Mode(SP)  3.0Vp-p 1V 0.2ms PB Mode(SLP)
28	TRAP MONITOR	To monitor B-Y signal at Pin 37 of IC3001 on the Main C.B.A.	 0.1V 20us Rec/PB Mode (Color Bar Chart)

Fig. 6-3-2

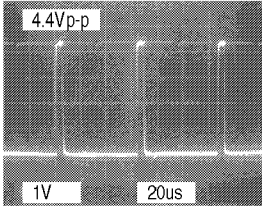
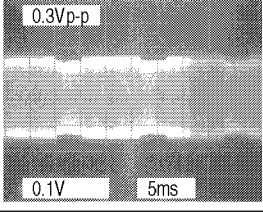
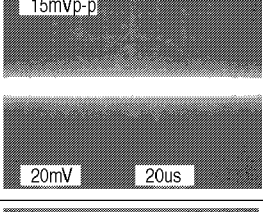
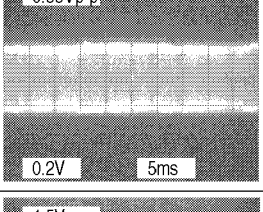
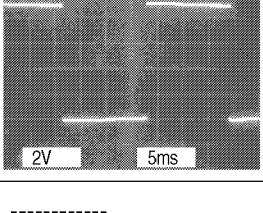
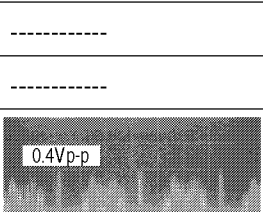
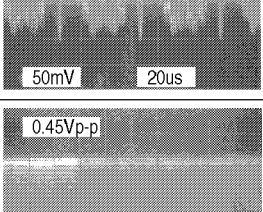
Pin No.	Signal Name	Description	Waveforms
29	H-SYNC	To monitor H sync signal at Pin 61 of IC3001 on Main C.B.A. (In EVR adjustment mode, 629kHz carrier appears.)	 4.4Vp-p 1V 20us Rec/PB Mode
30	PB LUMINANCE	To monitor PB luminance signal at Pin 23 of IC3001 on Main C.B.A.	 0.3Vp-p 0.1V 5ms PB Mode
31	YNR	To monitor YNR error signal at Pin 21 of IC3001 on Main C.B.A.	 15mVp-p 20mV 20us PB Mode
32	ENVELOPE	To monitor PB envelope signal at Pin1 of FP6 on Main C.B.A.	 0.55Vp-p 0.2V 5ms PB Mode
33	HEAD SW	To monitor head switching signal at Pin 23 of IC6001 on Main C.B.A.	 4.5Vp-p 2V 5ms PB Mode
34	Not used	-----	-----
35	GND	Grounding terminal	-----
36	GND	Grounding terminal	-----
37	REC CHROMINANCE	To monitor recording chrominance signal at Pin 38 of IC3001 on Main C.B.A.	 0.4Vp-p 50mV 20us Rec Mode
38	REC LUMINANCE	To monitor recording luminance signal at Pin 27 of IC3001 on Main C.B.A.	 0.45Vp-p 0.1V 5ms Rec Mode
39	Not used	-----	-----
40	Not used	-----	-----

Fig. 6-3-3

6.1.11. EEPROM DATA

CAUTION:

Be sure to save the EEPROM data using PC-EVR Adjustment Program before service and adjustment in order to make sure to avoid an accidental data loss, etc. using PC-EVR Adjustment Program.

Click the desired button in Data editor menu for saving the EEPROM data, writing the EEPROM data which you stored in your PC to the EEPROM IC, or writing the initial data to the EEPROM IC.

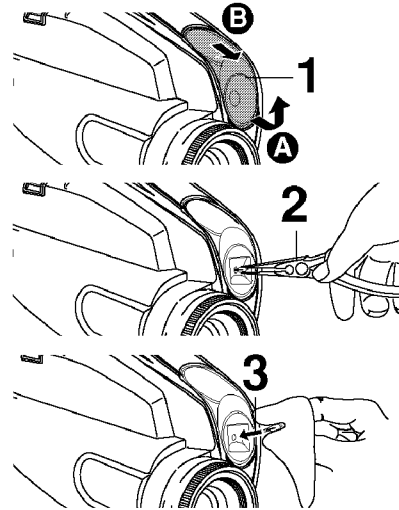
EEPROM IC

C.B.A.	EEPROM IC Ref. No.
Main C.B.A.	IC306

6.1.12. HOW TO REPLACE THE LAMP

DANGER:

Use only replacement Lamp (PART NO. VLLW0015) supplied by Panasonic to reduce risk of fire.
Handle new Lamp with cloth or tissue as skin oils will decrease Lamp life.
Remove Light Protector and allow Lamp to cool before replacing to avoid possible burn hazard.



Before you begin...

Order Part No. VLLW0015 for replacement Lamp.
Set POWER to OFF.

- 1** Slightly raise portion **A** of Light Protector to unhook, and slide portion **B** forward to remove.
- 2** Using Tweezers or needle-nose pliers, carefully remove Lamp.
- 3** Replace Lamp using a clean cloth or tissue. (Do not touch with fingers.)
- 4** Replace Light Protector.

Note:

Handle Lamp gently. Excessive force may cause Lamp to crack.

Fig. 7

6.1.13. HOW TO ACCESS THE MANUAL TRACKING CONTROL

Press the UP (Tracking Up) or Down (Tracking Down) button to perform the Manual Tracking Adjustment in Playback Mode.

6.1.14. SPECIAL NOTE

All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handlings techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

6.1.15. MODEL NO. IDENTIFICATION MARK

Use Marks shown in the chart below to distinguish the different models included in this Service Manual.

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
NOT USED	PT

Note:

Refer to Item 3 of Schematic Diagram Notes of Schematic Diagram and Circuit Board Layout Notes, for Mark "PT."

7 DISASSEMBLY/ASSEMBLY PROCEDURES

7.1. CABINET SECTION

7.1.1. DISASSEMBLY FLOWCHART

This flow chart indicates the disassembly steps of the cabinet parts and the P.C. Boards in order to gain access to item (s) to be serviced. When reassembling, perform the step (s) in the reverse order. Bend, route and dress the wires as they were originally.

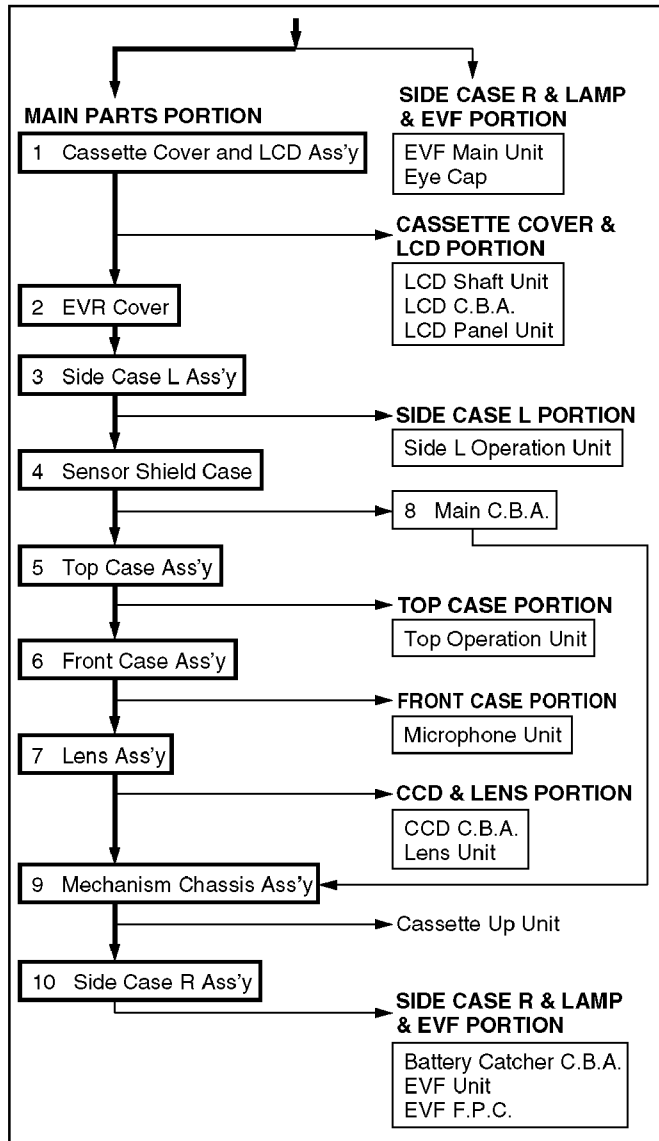


Fig. D1

Note:

1. When removing the cabinet, work with care so as not to break the Locking Tabs.
2. Place a cloth or some other soft material under the P.C. Boards or Unit to prevent damage.
3. When reinstalling, ensure that the connectors are connected and electrical components have not been damaged.
4. Do not supply power to the unit during disassembly and reassembly.

7.1.2. Disassembly Method

MAIN PARTS PORTION

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	-	Cassette Cover and LCD Ass'y	①	2(L-1), 2(L-2), FP9101	1
2	①⑦	EVR Cover	①	⑤⑧⑥	-
3	-	Side Case L Ass'y	①	3 ⑤③③, 2 ⑤⑧⑥, 5 ⑥④④, FP13	2
4	①⑧④	Sensor Shield Case	①	⑤④④, 2(L-3), FP9	-
5	-	Top Case Ass'y	①	2 ⑤⑧⑥, 3(L-4), FP12	3
6	-	Front Case Ass'y	①	2 ⑤⑧⑥, 2(L-5), FP11	4
7	-	Lens Ass'y	①	⑤⑧⑥, FP8	-
8	⑤⑩	Main C.B.A.	①	2 ④②①, ④⑦③, FP1, FP2, FP6, FP7, FP10, FP901, Unsolder	5
9	⑤⑤	Mechanism Chassis Ass'y	①	④⑦③, ⑤③③	6
10	-	Side Case R Ass'y	①	-----	-

↑ ↑ ↑ ↑ ↑ ↑
 A B C D E F

How to read chart shown above:

A: Order of Procedure steps.

When reassembling, perform steps (s) in reverse order.

B: Ref No.

C: Part to be removed or installed.

D: Section No.

E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.

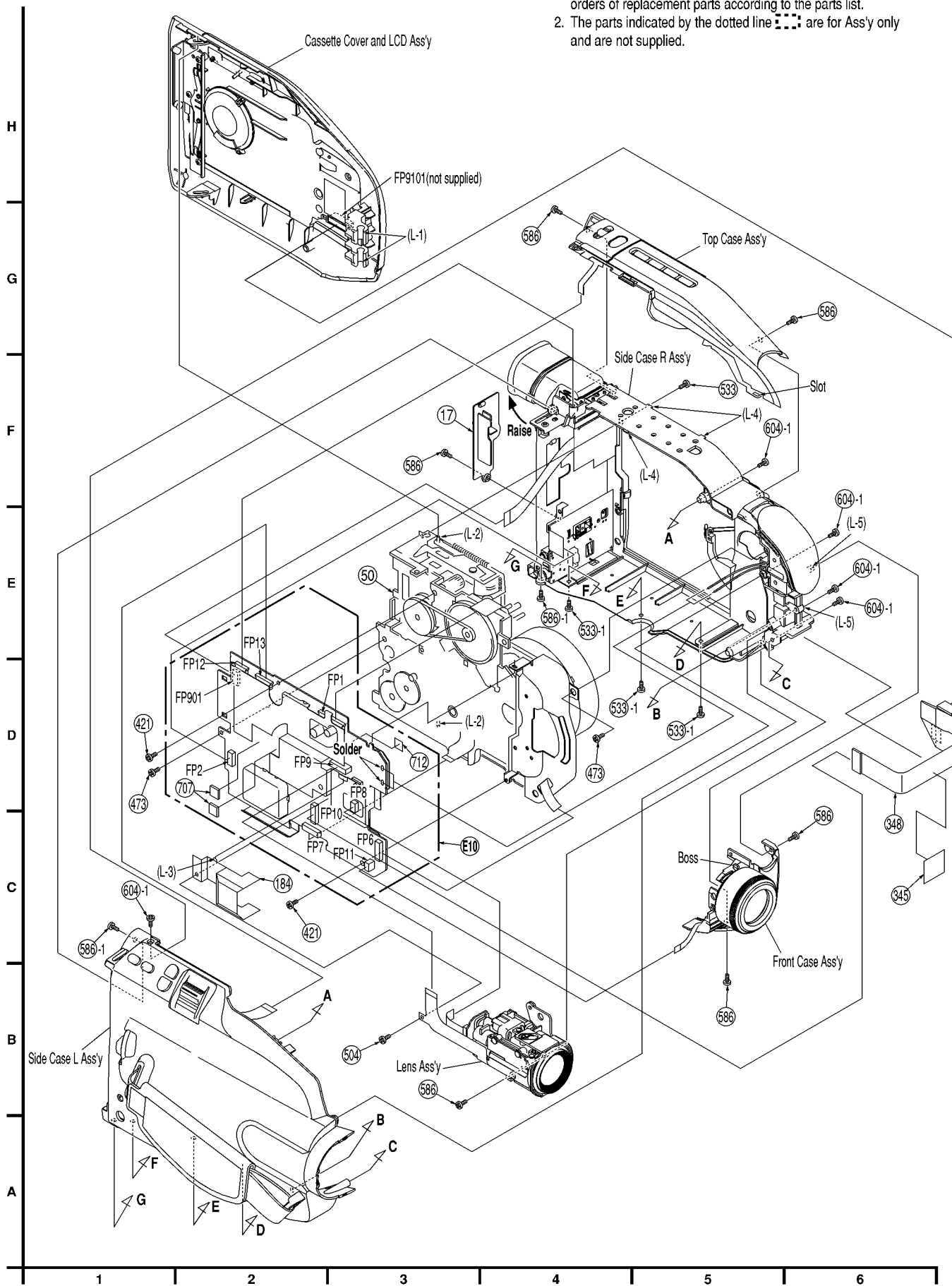
2 ⑤③③ = 2 Screws ⑤③③, 2(L-1) = 2 Locking Tabs (L-1)

F: Refer to "Notes in chart."

1 MAIN PARTS SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line  are for Assy's only and are not supplied.



CASSETTE COVER & LCD PORTION

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	383	Shaft Cover	2	4586	-
2	-	LCD Case Ass'y	2	2588, 2(L-1), 397, Unsolder	7
3	355	LCD Case A Unit	2	2469, 8(L-2)	-
4	366	LCD Shaft Unit	2	FP1201	-
5	335	LCD Case B	2	4586	-
6	330	LCD C.B.A.	2	3(L-3), FP9001, Unsolder	-
7	211	LCD Panel Unit	2	8(L-4)	8
8	212	Lead Light Panel Unit	2	-----	9
9	203	Back Light Unit	2	3(L-5), LCD Sheet Unit	10
↑	↑	↑	↑	↑	↑
A	B	C	D	E	F

How to read chart shown above:

A: Order of Procedure steps.

When reassembling, perform steps (s) in reverse order.

B: Ref No.

C: Part to be removed or installed.

D: Section No.

E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.

2 533 = 2 Screws 533, 2(L-1) = 2 Locking Tabs (L-1)

F: Refer to "Notes in chart."

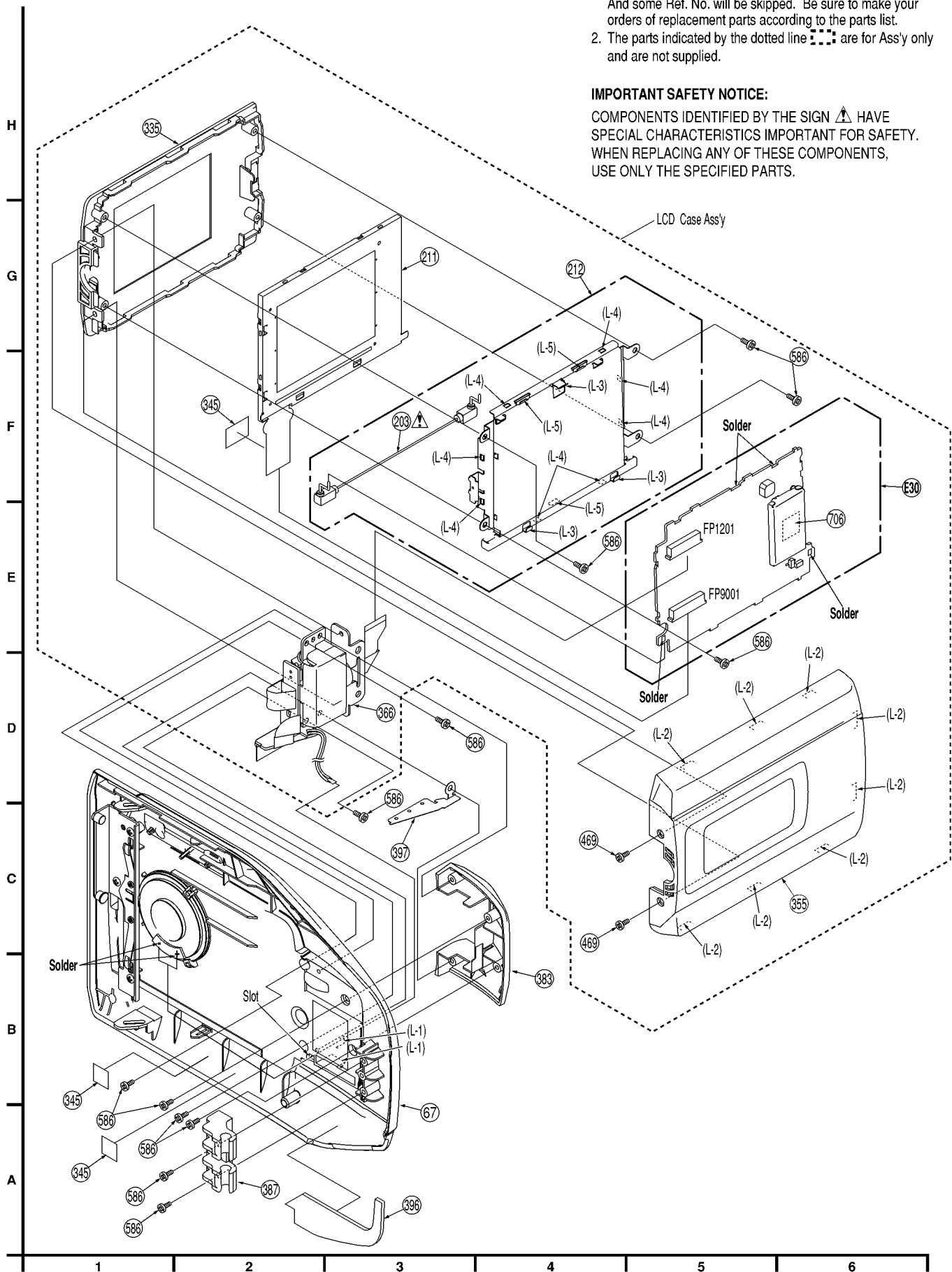
② CASSETTE COVER AND LCD SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line  are for Ass'y only and are not supplied.

IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.



SIDE CASE L PORTION

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	⑬①	Side L Operation Unit	③	7 ^{⑤⑧⑥} , (L-1), ①⑨①	11
↑ A	↑ B	↑ C	↑ D	↑ E	↑ F

How to read chart shown above:

A: Order of Procedure steps.

When reassembling, perform steps (s) in reverse order.

B: Ref No.

C: Part to be removed or installed.

D: Section No.

E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.

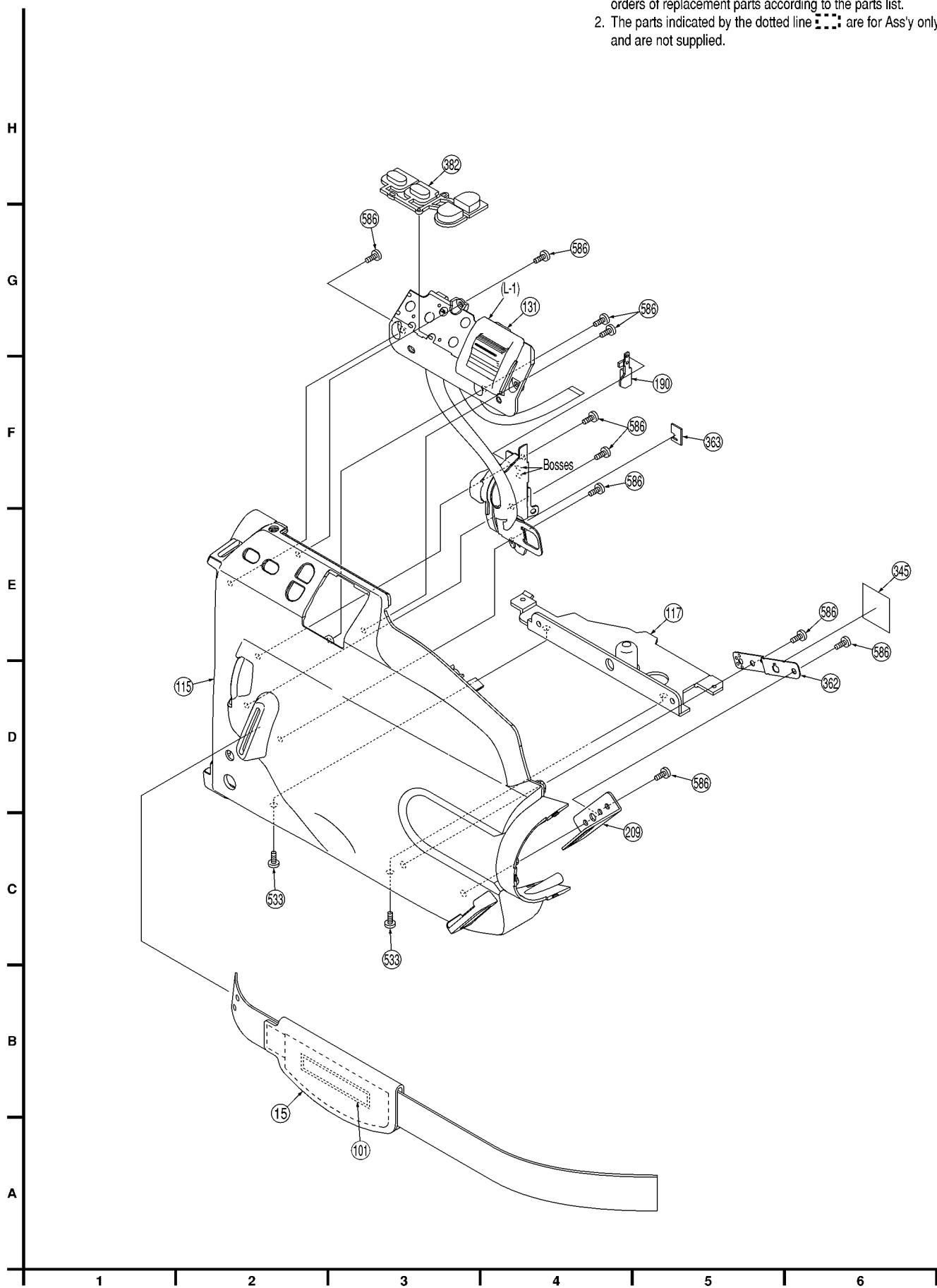
2 ^{⑤③③} = 2 Screws ^{⑤③③}, 2(L-1) = 2 Locking Tabs (L-1)

F: Refer to "Notes in chart."

③ SIDE CASE L SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line  are for Assy's only and are not supplied.



TOP CASE PORTION

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	130	Top Operation Unit	4	2 627	12
↑ A	↑ B	↑ C	↑ D	↑ E	↑ F

How to read chart shown above:

A: Order of Procedure steps.

When reassembling, perform steps (s) in reverse order.

B: Ref No.

C: Part to be removed or installed.

D: Section No.

E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.

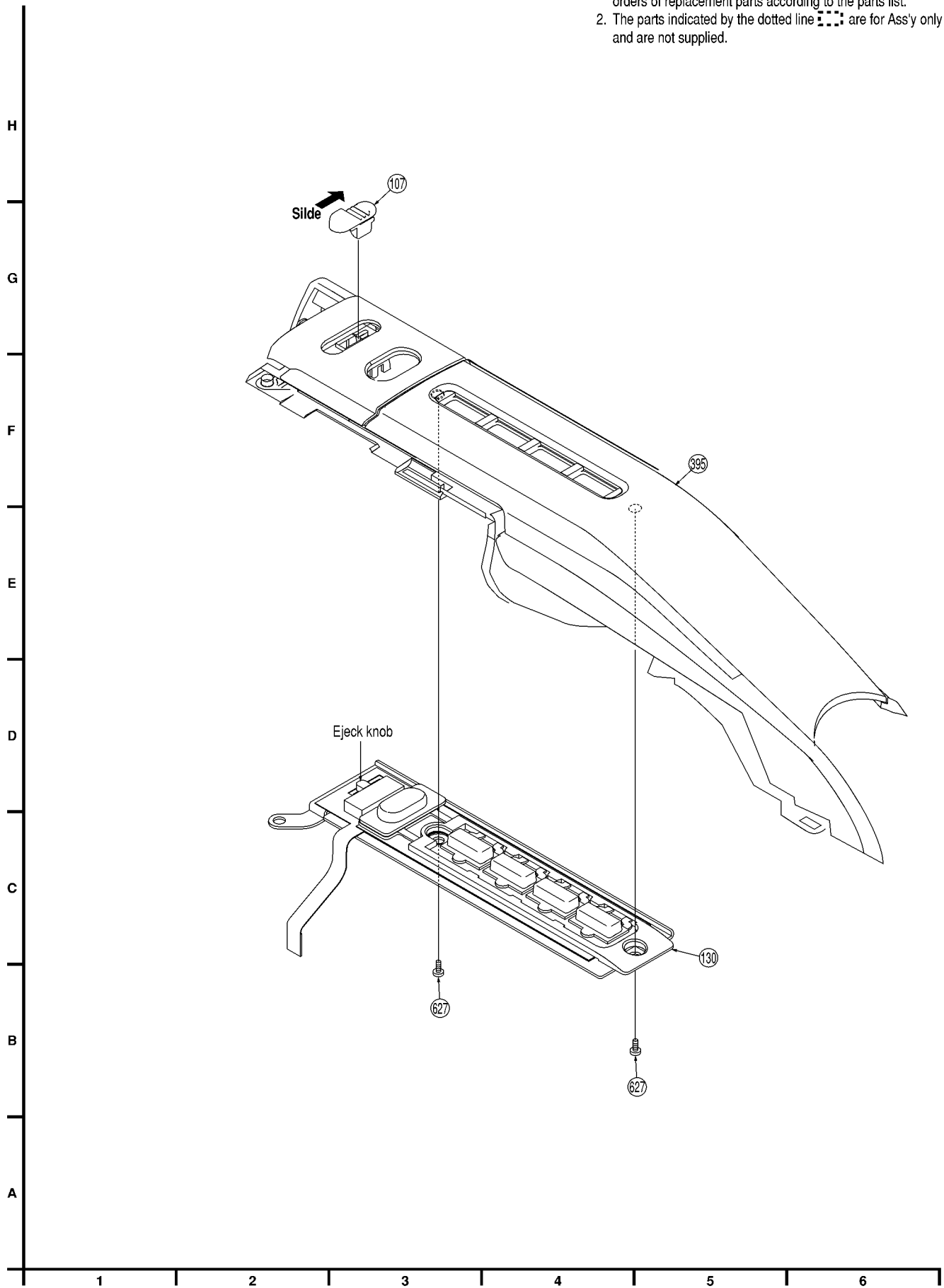
2 533 = 2 Screws 533, 2(L-1) = 2 Locking Tabs (L-1)

F: Refer to "Notes in chart."

4 TOP CASE SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line  are for Ass'y only and are not supplied.



FRONT CASE PORTION

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	128	Microphone Unit	5	586	-
↑ A	↑ B	↑ C	↑ D	↑ E	↑ F

How to read chart shown above:

A: Order of Procedure steps.

When reassembling, perform steps (s) in reverse order.

B: Ref No.

C: Part to be removed or installed.

D: Section No.

E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.

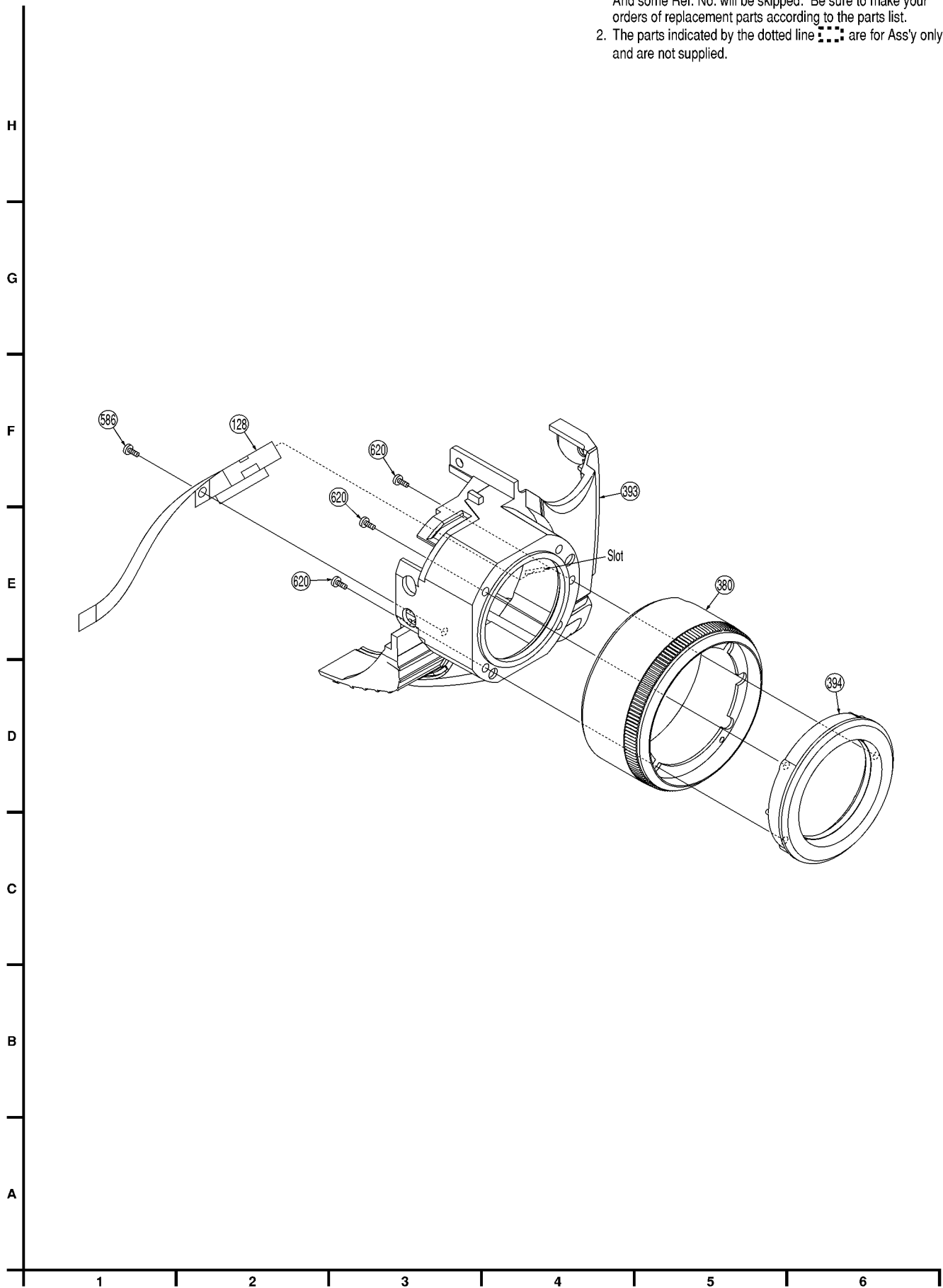
2 533 = 2 Screws 533, 2(L-1) = 2 Locking Tabs (L-1)

F: Refer to "Notes in chart."

5 FRONT CASE SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied.
And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line  are for Ass'y only and are not supplied.



CCD PORTION & LENS PORTION

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	Ⓔ40	CCD C.B.A.	⑥	2 ⑤02	13
2	③1	Filter Rubber	⑥	-----	13
3	①6	Optical Filter	⑥	-----	13
4	②41	IR Cut Filter	⑥	-----	13
↑	↑	↑	↑	↑	↑
A	B	C	D	E	F

How to read chart shown above:

A: Order of Procedure steps.

When reassembling, perform steps (s) in reverse order.

B: Ref No.

C: Part to be removed or installed.

D: Section No.

E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.

2 ⑤33 = 2 Screws ⑤33, 2(L-1) = 2 Locking Tabs (L-1)

F: Refer to "Notes in chart."

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	-	Lens Piece Ass'y	⑥	-----	-
2	①3	Focus Motor Unit	⑥	2 ⑥48, Unsolder	14
3	②21	Zoom Motor Unit	⑥	2 ⑥47, ⑥48, Unsolder	14
↑	↑	↑	↑	↑	↑
A	B	C	D	E	F

How to read chart shown above:

A: Order of Procedure steps.

When reassembling, perform steps (s) in reverse order.

B: Ref No.

C: Part to be removed or installed.

D: Section No.

E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.

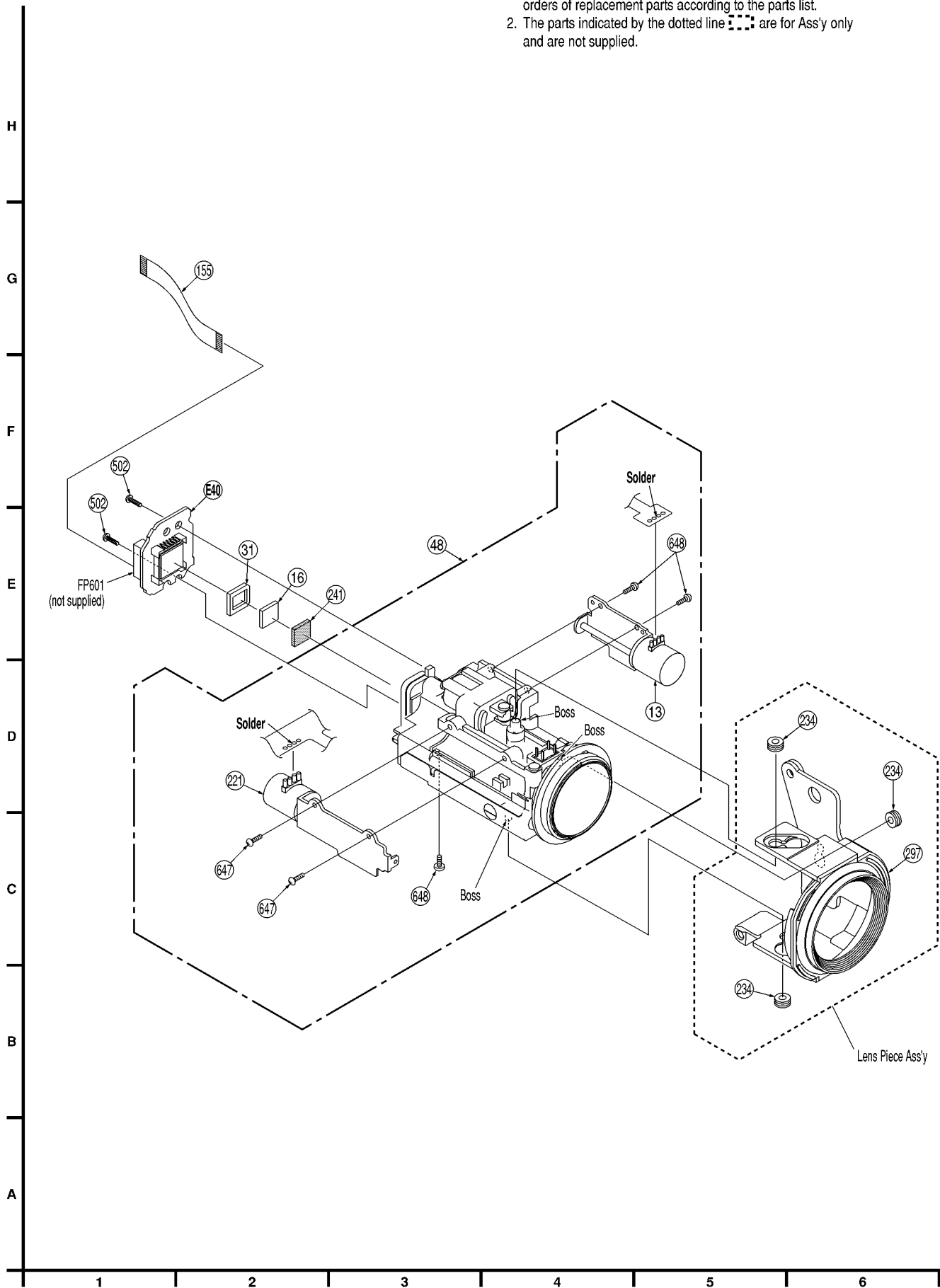
2 ⑤33 = 2 Screws ⑤33, 2(L-1) = 2 Locking Tabs (L-1)

F: Refer to "Notes in chart."

6 LENS SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line  are for Ass'y only and are not supplied.



SIDE CASE R & LAMP & EVF PORTION

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	-	Lamp Ass'y	7	2 586	15
2	186	Light Protector	7	3(L-1)	-
3	340	Lamp	7	-----	16

↑ ↑ ↑ ↑ ↑ ↑
 A B C D E F

How to read chart shown above:

A: Order of Procedure steps.

When reassembling, perform steps (s) in reverse order.

B: Ref No.

C: Part to be removed or installed.

D: Section No.

E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.

2 533 = 2 Screws 533, 2(L-1) = 2 Locking Tabs (L-1)

F: Refer to "Notes in chart."

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	E20	Battery Catcher C.B.A.	7	586, (L-2), 29 Battery	17

↑ ↑ ↑ ↑ ↑ ↑
 A B C D E F

How to read chart shown above:

A: Order of Procedure steps.

When reassembling, perform steps (s) in reverse order.

B: Ref No.

C: Part to be removed or installed.

D: Section No.

E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.

2 533 = 2 Screws 533, 2(L-1) = 2 Locking Tabs (L-1)

F: Refer to "Notes in chart."

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	61	EVF Unit	7	586	18
2	-	EVF Ass'y	7	620, 627, (L-3), FP951	19
3	268	Eye Cap	7	-----	19
4	361	EVF Main Unit	7	-----	19
5	344	EVF F.F.C. (F.P.C.)	7	-----	-

↑ ↑ ↑ ↑ ↑ ↑
 A B C D E F

How to read chart shown above:

A: Order of Procedure steps.

When reassembling, perform steps (s) in reverse order.

B: Ref No.

C: Part to be removed or installed.

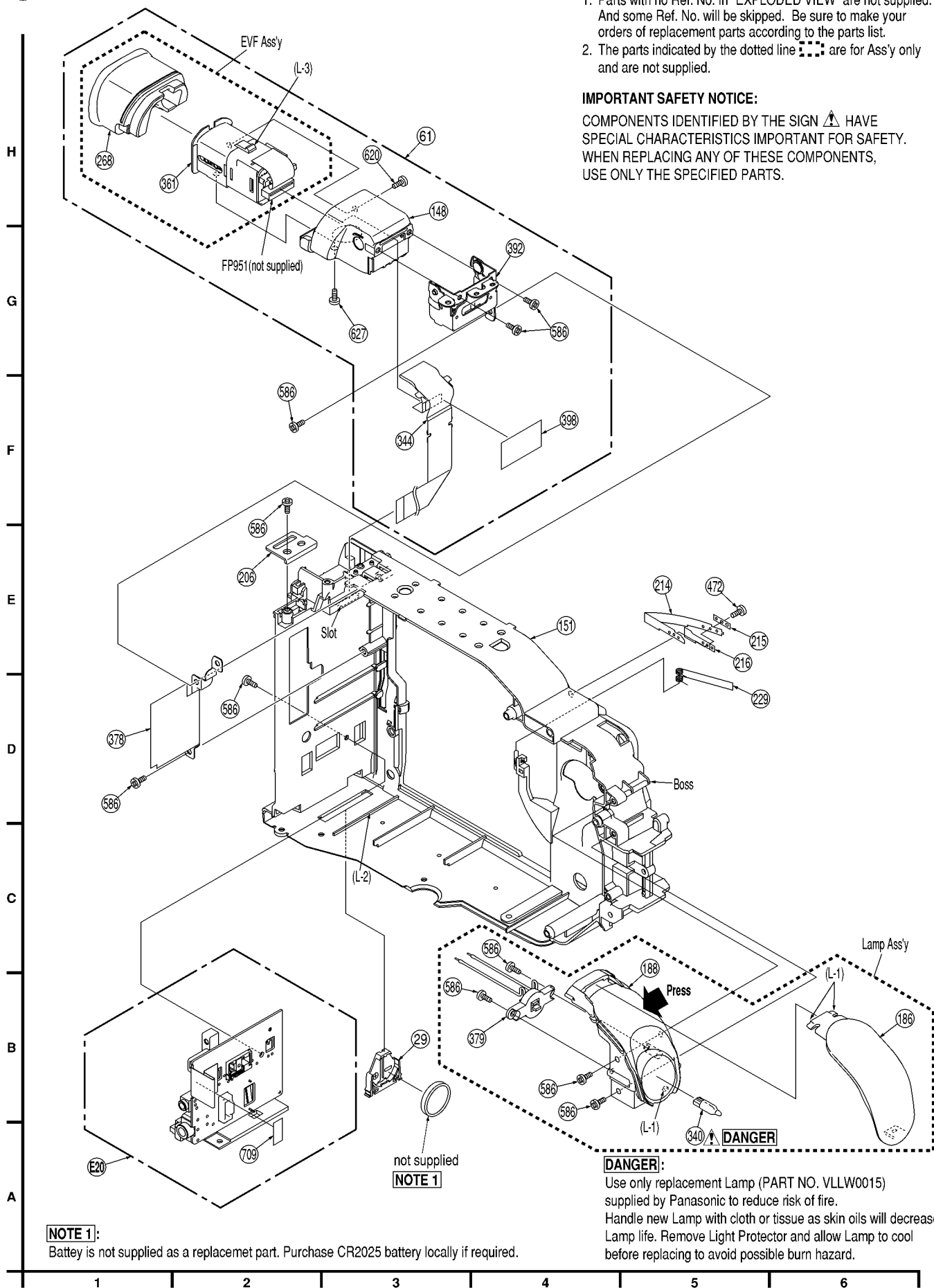
D: Section No.

E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.

2 533 = 2 Screws 533, 2(L-1) = 2 Locking Tabs (L-1)

F: Refer to "Notes in chart."

7 SIDE CASE R SECTION



Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line are for Ass'y only and are not supplied.

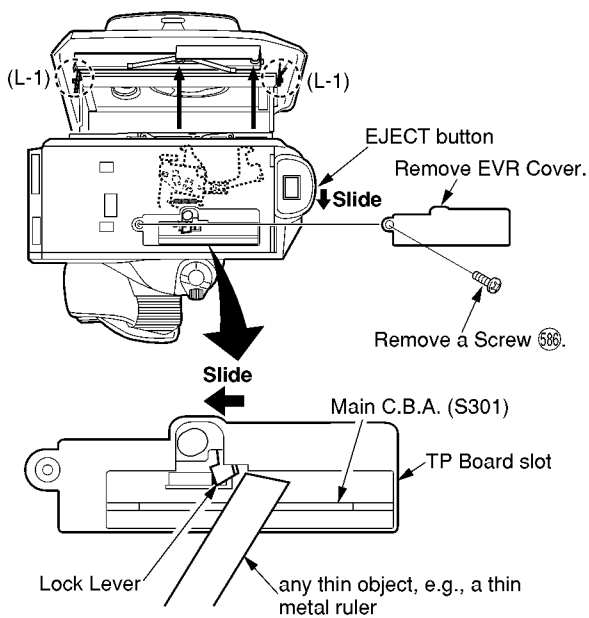
IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

Notes in chart

1. Removal of Cassette Cover and LCD Ass'y

To open the Cassette Cover, place the unit with the Cassette Cover facing upward. Then, with the power on slide the EJECT button, or remove the EVR Cover and slide the Lock Lever through the TP Board slot.



Rear View

Fig. D2

Installation of Cassette Cover and LCD Ass'y (For early product PV-L354, PV-L454 only)

CAUTION:

Be sure to connect the Flexible Flat Cable (LCD F.F.C.) to Connector FP9101 correctly as shown. Otherwise, the F1001, Q1007 and L1018 for -15 V circuit on the Main C.B.A. may be damaged.

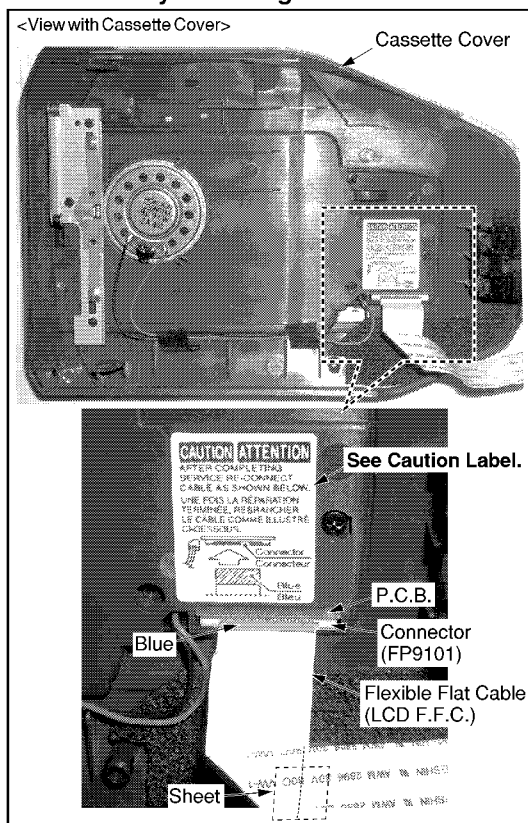


Fig. D3

2. Removal of Side Case L Ass'y

When removing the Side Case L Ass'y, remove the 10 screws (533, 586, 604). Take care not to damage the F.P.C. in the unit.

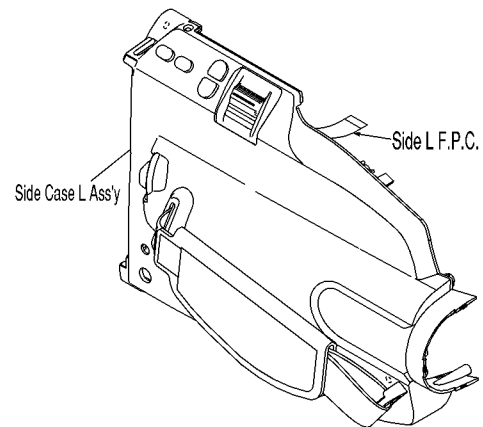
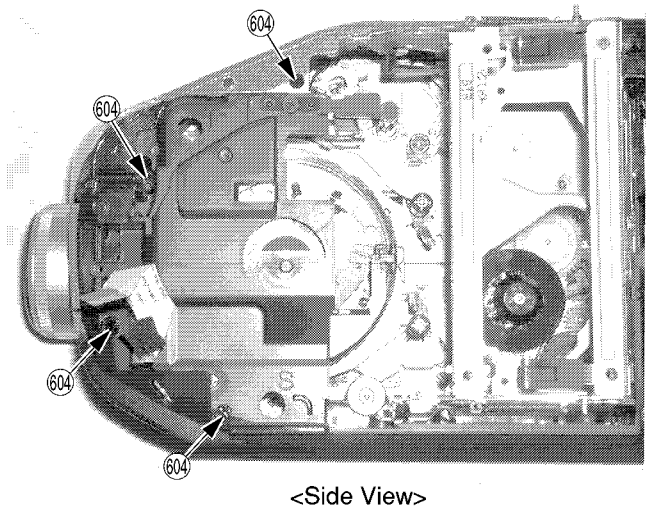


Fig. D4

3. Installation of Top Case Ass'y

- 1) Install the Top Case Ass'y with 3 Locking Tabs (L-4) in the direction indicated by the arrow.
- 2) Connect the Top Operation F.P.C. to the Connector FP12 on the Main C.B.A. as shown.

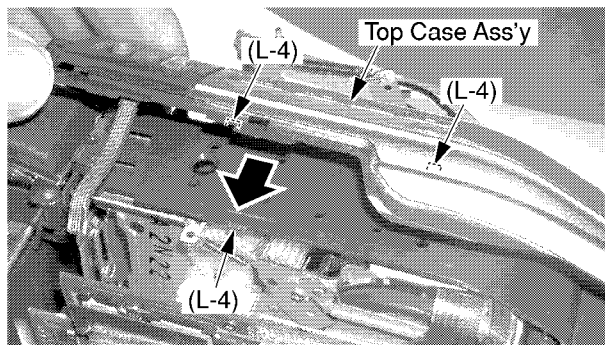


Fig. D5

4. Removal of Front Case Ass'y

Release the Locking Tab (L-5) carefully using any thin object, e.g., a thin metal ruler.

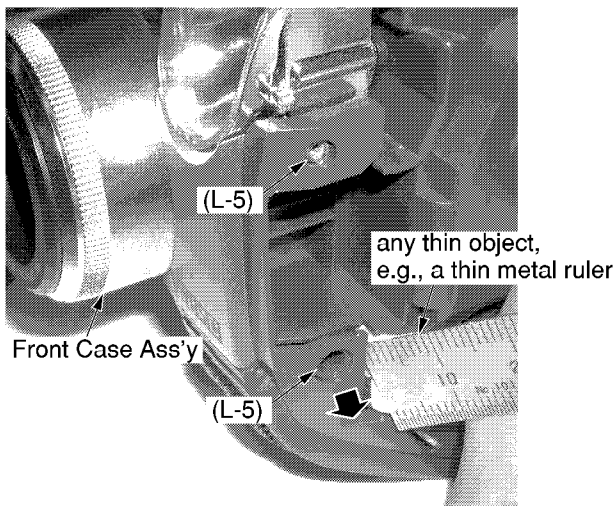


Fig. D6

5. Installation of Main C.B.A.

- 1) Take care not to damage the Flexible Cables.
- 2) Connect the Flexible Cables to the connectors on the Main C.B.A., verifying that the direction of the Flexible Cables is correct. Refer to "REMOVAL/INSTALLATION OF F.P.C. FROM NON ZIF (Zero Insertion Force) CONNECTOR."
- 3) After installing the Main C.B.A., crease the Battery Catcher F.P.C. as shown.

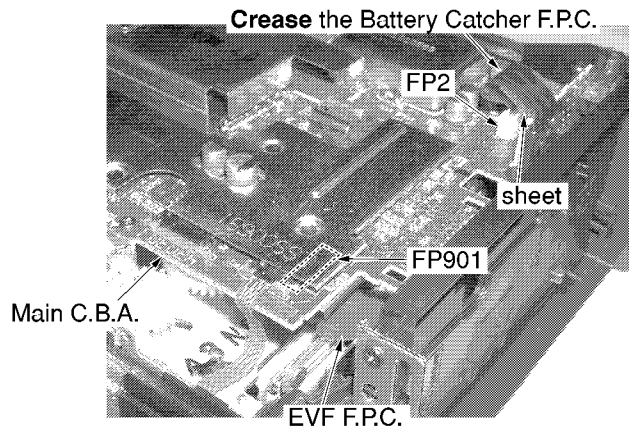


Fig. D7-1

Main C.B.A. replacement note

To remove the Main C.B.A., the Lamp Socket Leads must be unsoldered.

When installing the Main C.B.A., solder these leads onto the Main C.B.A.

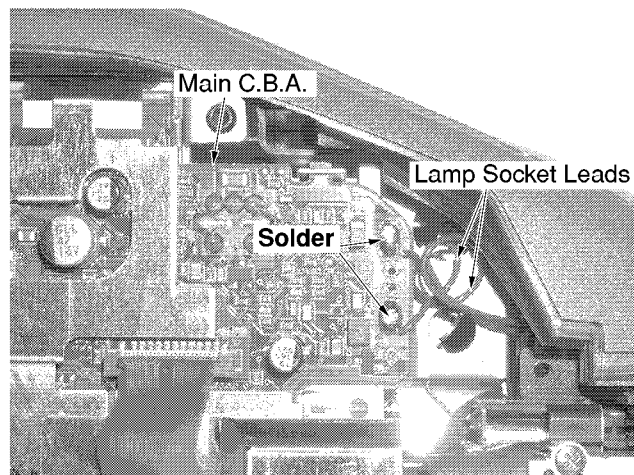


Fig. D7-2

Soldering Note:

The Lamp Socket Leads have no polarization.

6. Installation of Mechanism Chassis Ass'y

The Mechanism Chassis Ass'y is supplied with a Lock Screw installed. Make sure to remove the Lock Screw from the Cassette Up Unit when replacing the Mechanism Chassis Ass'y.

7. Installation of LCD Case Ass'y

- 1) Set the LCD Case Ass'y and the Connector Shield Case (397) as shown.
- 2) Shape the Speaker Leads as shown. Then, solder the Speaker Leads.

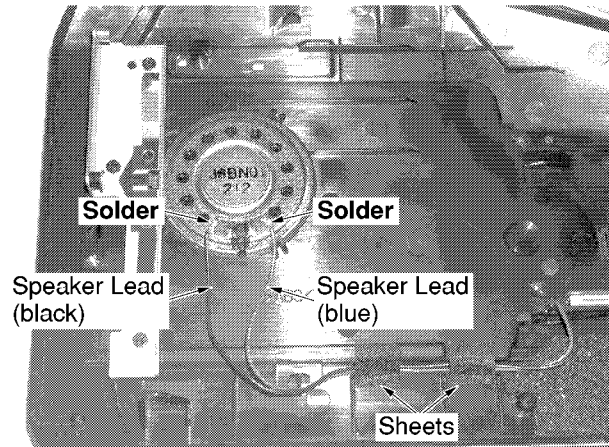
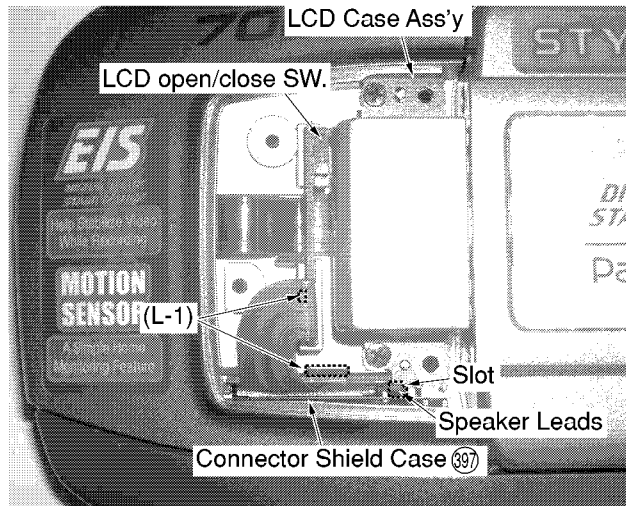


Fig. D9

8. Removal/Installation of LCD Panel Unit

Use extreme care when handling the LCD Panel Unit to avoid damage, dust, and spots (especially fingerprints), etc.

9. Installation of Lead Light Panel Unit

After replacing the Lead Light Panel Unit, confirm that the Terminal of the Back Light Unit is soldered correctly.

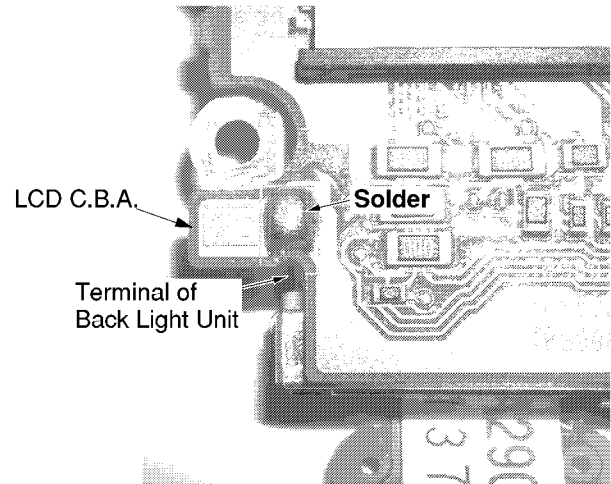
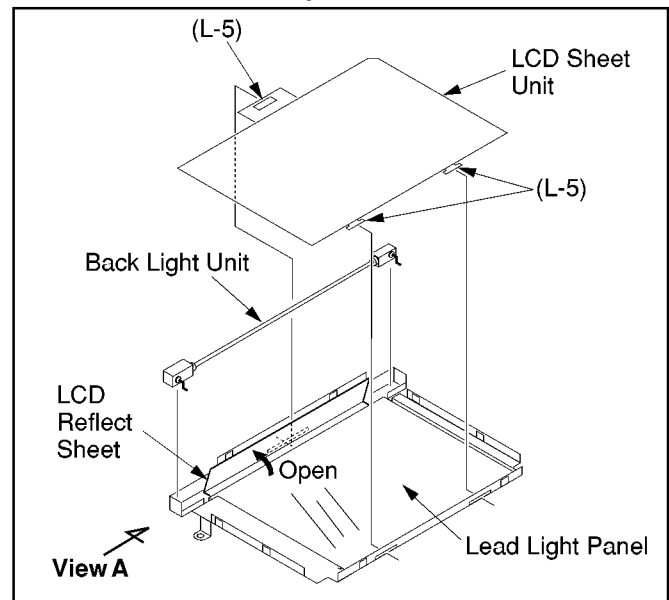


Fig. D10

10. Installation of Back Light Unit



- a. When installing the Back Light Unit, confirm that the Back Light Unit is positioned as shown below.
- b. Use extreme caution when handling the Lead Light Panel and the LCD Sheet Unit to avoid damage, dust, and spots (especially fingerprints), etc.

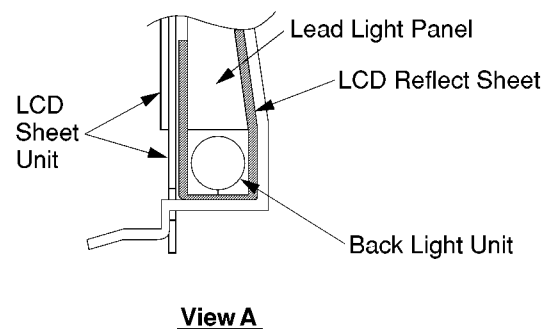


Fig. D11

11. Removal of Side L Operation Unit

- 1) Remove the 7 Screws (586).
- 2) Remove the Side L Operation Unit while releasing the Locking Tab (L-1) of the Zoom Switch.

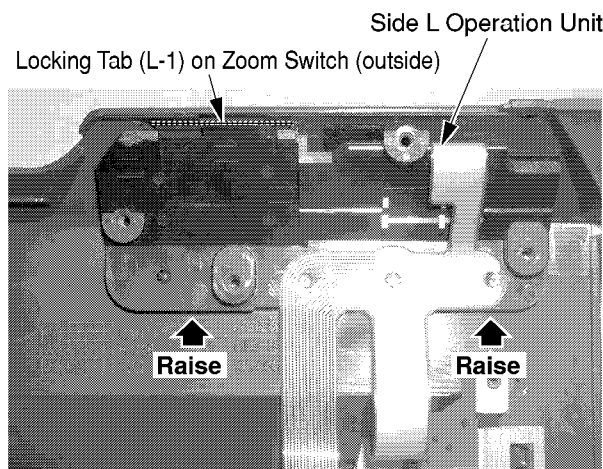


Fig. D12-1

Installation of Stopper Piece

Insert the projection of the Stopper Piece into the slot of the Side L Operation Unit as shown.

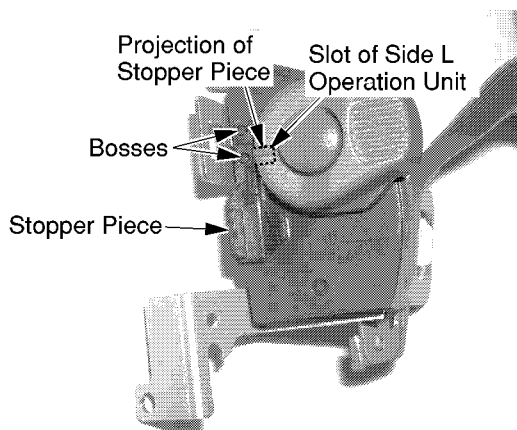


Fig. D12-2

12. Installation of Top Operation Unit

Before installing the Top Operation Unit, slide the Tape Eject Knob (107).

13. Removal of CCD C.B.A., Filter Rubber, Optical Filter, IR Cut Filter

CAUTION:

- 1) When removing the CCD C.B.A., take care that the Optical Filter and the IR Cut Filter do not fall out.
- 2) Take extreme caution when removing the CCD C.B.A. as it is easily damaged by static electricity. Use a Wrist Strap while removing and installing.
- 3) Do not touch the CCD window surface.

Installation of CCD C.B.A., Filter Rubber, Optical Filter, IR Cut Filter

- 1) Install the IR Cut Filter in the Lens Unit correctly.
Note: Make sure no dust gets on the IR Cut Filter or in the Lens Unit. Clean the IR Cut Filter with lens cleaning paper dampened with lens cleaner if necessary.
- 2) Install the Optical Filter on the IR Cut Filter correctly.
Note: Make sure no dust gets on the Optical Filter or in the Lens Unit. Clean the Optical Filter with lens cleaning paper dampened with lens cleaner if necessary.
- 3) Install the Filter Rubber on the Optical Filter correctly as shown below.
Note: Make sure that no dust gets on the Filter Rubber.
- 4) Install the CCD C.B.A. into the Lens Unit. Then, tighten the 2 Screws (502) while keeping the CCD C.B.A. pressed toward the upper left corner from the CCD side.

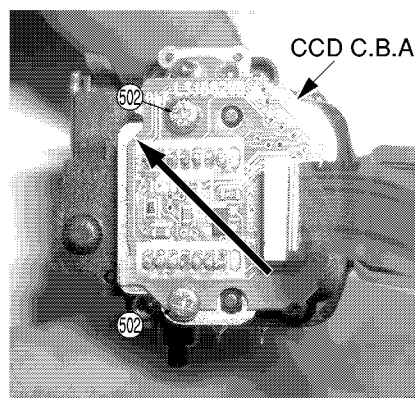


Fig. D13

Note: Do not touch the Lens Surface. Clean the surface with lens cleaning paper dampened with lens cleaner if necessary.

14. Installation of Focus Motor Unit/Zoom Motor Unit

Install the Focus Motor Unit/Zoom Motor Unit so that the Shaft of the Focus Motor Unit/Zoom Motor Unit is set in the Holder within the specified area.

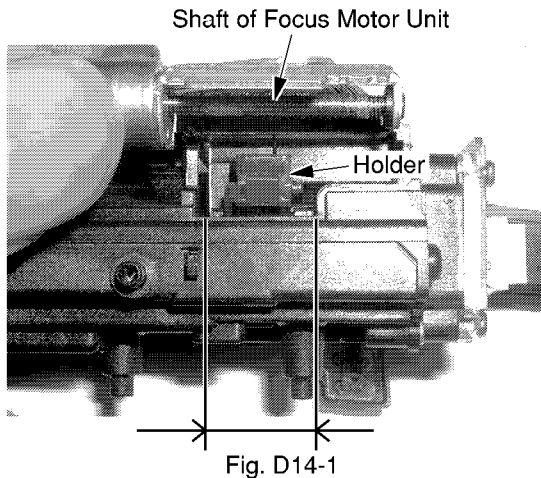


Fig. D14-1

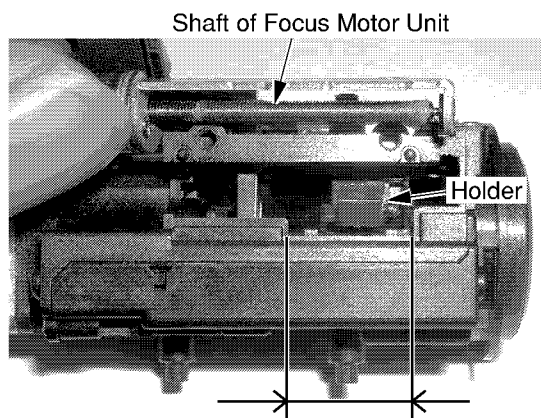


Fig. D14-2

Soldering of Focus Motor Unit/Zoom Motor Unit

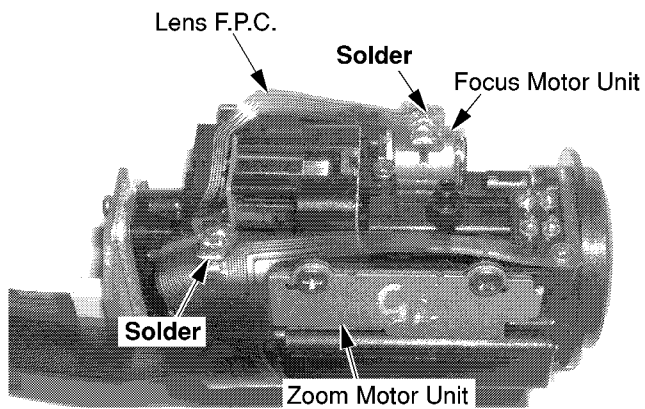


Fig. D14-3

15. Installation of Lamp Ass'y

When installing the Lamp Ass'y, pass the Lamp Socket Leads to the hole. Then, secure the 2 Screws (586) with the Lamp Ass'y being pressed down.

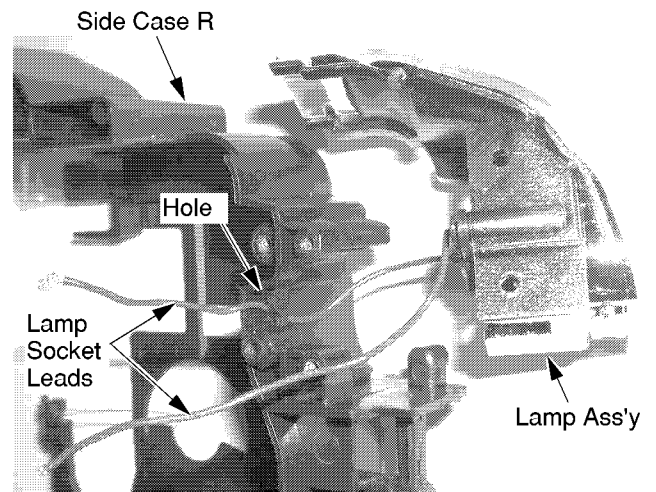


Fig. D15

16. Replacement of Lamp

When replacing the Lamp, refer to "HOW TO REPLACE THE LAMP" in "SERVICE NOTES."

DANGER:

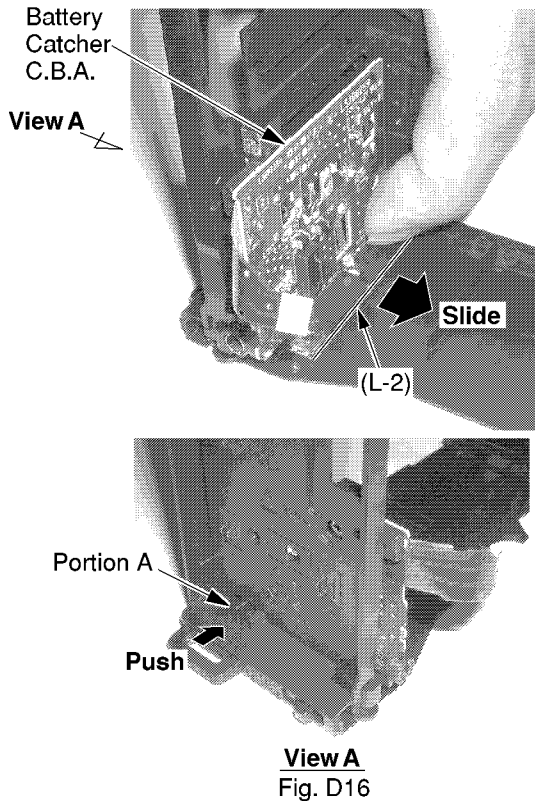
Use only replacement Lamp (PART NO. VLLW0015) supplied by Panasonic to reduce risk of fire.
Handle new Lamp with cloth or tissue as skin oils will decrease Lamp life.
Remove Light Protector and allow Lamp to cool before replacing to avoid possible burn hazard.

17. Removal of Battery Catcher C.B.A.

- 1) To remove the Battery Catcher Unit, first remove the Backup Cover (29) with the Battery.
- 2) Remove the Screw (586).
- 3) Release the Locking Tab (L-2) while pushing Portion A.
- 4) Then, slide the Battery Catcher C.B.A. out as indicated by the arrow.

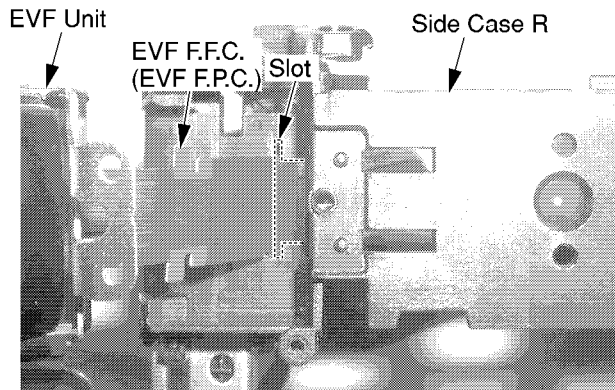
WARNING:

- Replace battery with Panasonic or LIXING type CR2025 only. Use of another battery may present a risk of fire or explosion.
 - Battery may explode if mistreated.
 - As with any small object, this type of Battery can be swallowed by young children. Do not allow children to handle this Battery.
- Caution:**
- Dispose of used battery promptly.
 - Do not recharge, disassemble or dispose of in fire.



18. Installation of EVF Unit

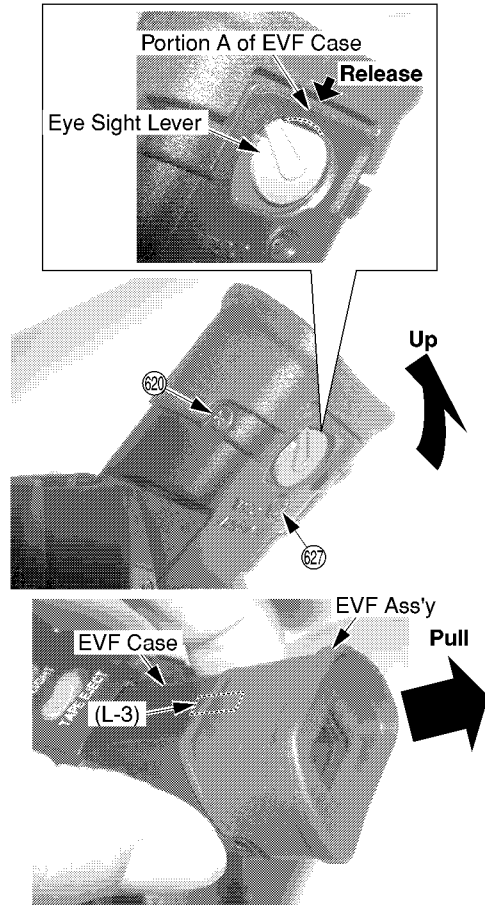
Insert the EVF F.F.C. (F.P.C.) into the slot on the Side Case R.



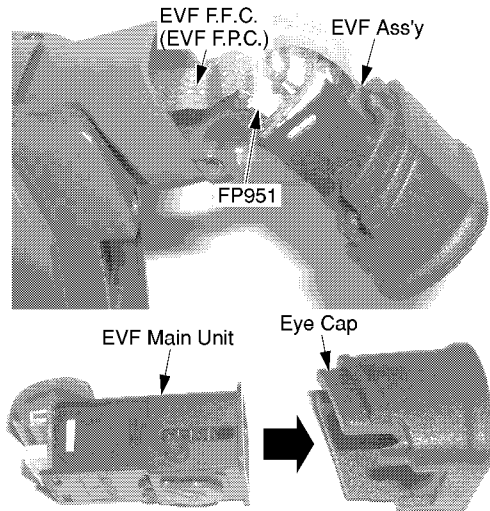
19. Replacement of EVF Main Unit

Take care not to damage the EVF F.F.C. (F.P.C.) in the EVF Case when removing the EVF Main Unit.

- 1) When replacing the EVF Main Unit, remove the 2 Screws (620, 627).
- 2) Rest Portion A of the EVF Case on the Eye Sight Lever so that the Eye Sight Lever is under Portion A as shown.
- 3) **Carefully** pull off the EVF Ass'y (EVF Main Unit & Eye Cap) while grasping both sides of the EVF Case to release the Locking Tab (L-3).



- 4) Disconnect the EVF F.F.C. (F.P.C.) from Connector FP951 on the EVF Main Unit.
- 5) Then, remove the Eye Cap from the EVF Main Unit.



7.2. MECHANISM SECTION

7.2.1. Disassembly Method

This procedure starts with the condition that the cabinet parts and Main C.B.A. have been removed.

When reassembling, perform the step(s) in the reverse order.

Perform all disassembly and alignments procedures in STOP Position except disassembly and alignment procedures which have the special Notes.

STEP LOC. No.	Prior Step (s)	Part	Fig. No.	Remove
①	-	Cassette Up Unit	DM3-1,2	2 ⑥32, 2(L-1)
②	-	Cylinder Unit	DM4-1	3 ⑥35, Hooking Portion
③	-	Not used	-	-
④	-	Not used	-	-
⑤	2	Bulge Chip	DM4-2	⑥28
⑥	-	P.C.B. Angle	DM5	④13
⑦	-	Mechanism F.P.C. Unit	DM6-1,2	4 ④12, Hooking Portion, double-sided adhesive tape, Unsolder Gear Alignment (x1)
⑧	1,9	Tension Unit	DM7-1,2	④11, Hooking Portion
⑨	1,8	Reel Table Unit	DM7-1,2	④19, ④10
⑩	1,8,9	Rev Clutch	DM8	④19
⑪	1	Take Gear	DM9-1,2	(L-1)
⑫	1,11	Rev Brake Arm Unit	DM9-1,2	④09, Hooking Portion
⑬	-	A/C Head Unit	DM10	④08, Unsolder
⑭	-	Capstan Belt	DM11	-
⑮	6,13,14	Capstan Unit	DM12	3 ④07
⑯	1,6,7,11,12,14	Idler Arm Unit	DM13	④19
⑰	2	Mechanism Support Angle	DM14	④15
⑱	1	Reduction Gear B	DM15	④11
⑲	-	Reduction Gear A	DM16	④19
⑳	1,18	Reduction Gear Unit	DM16	2 ⑥32
㉑	1	Pinch Arm Unit	DM17	④11
㉒	-	Not used	-	-
㉓	-	Not used	-	-
㉔	1,17	Takeup Post Unit	DM18-1,2	⑥40
㉕	1	Supply Post Unit	DM18-1,2	④16
㉖	-	Impedance Roller Unit	DM19-1,2	④19
㉗	1,2,13,24,25	Loading Base Unit	DM19-1,2	4 ④15
㉘	1,2,8,9,13,24,25,27	Takeup Loading Arm Unit	DM20	- Gear Alignment (x1)
㉙	1,2,8,9,13,24,25,27	Supply Loading Arm Unit	DM21-1,2,3	- Gear Alignment (x2)
㉚	8,9,19	Loading Motor Unit	DM22	2 ④14
㉛	1,2,8,9,10,18,19,20,24,25,27,29,30	Main Cam Unit	DM22	-
㉜	1,2,8,9,10,18,19,20,24,25,27,29,30,31	Pinch Toggle	DM22	-

↑
A

↑
B

↑
C

↑
D

↑
E

How to read chart shown above:

A: Order of Procedure steps.

When reassembling, perform steps(s) in reverse order.

These numbers are also used as the identification (location) No. of parts in Figures.

B: Steps to be completed prior to the current step.

C: Part to be removed or installed.

D: Fig. No. showing Procedure or Part Location.

E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.

2 ⑥32 = 2 Screws ⑥32, 2(L-1) = 2 Looking Tabs (L-1)

CAUTION:

a. Use a wrist strap to provide ESD protection while disassembling or assembling.

b. Removed Cut Washer is not reusable. If removed, install a new one.

Following Cut Washers are to be used:

Ref. No.	Part No.
④09	VMXW0217
④11	VMXW0213
④19	VMX2026

7.2.2. Inner Parts Location

Note:

BOX indicates alignment (Gear alignment or Tape Interchangeability adjustment) required when a part is replaced.

7.2.2.1. TOP VIEW

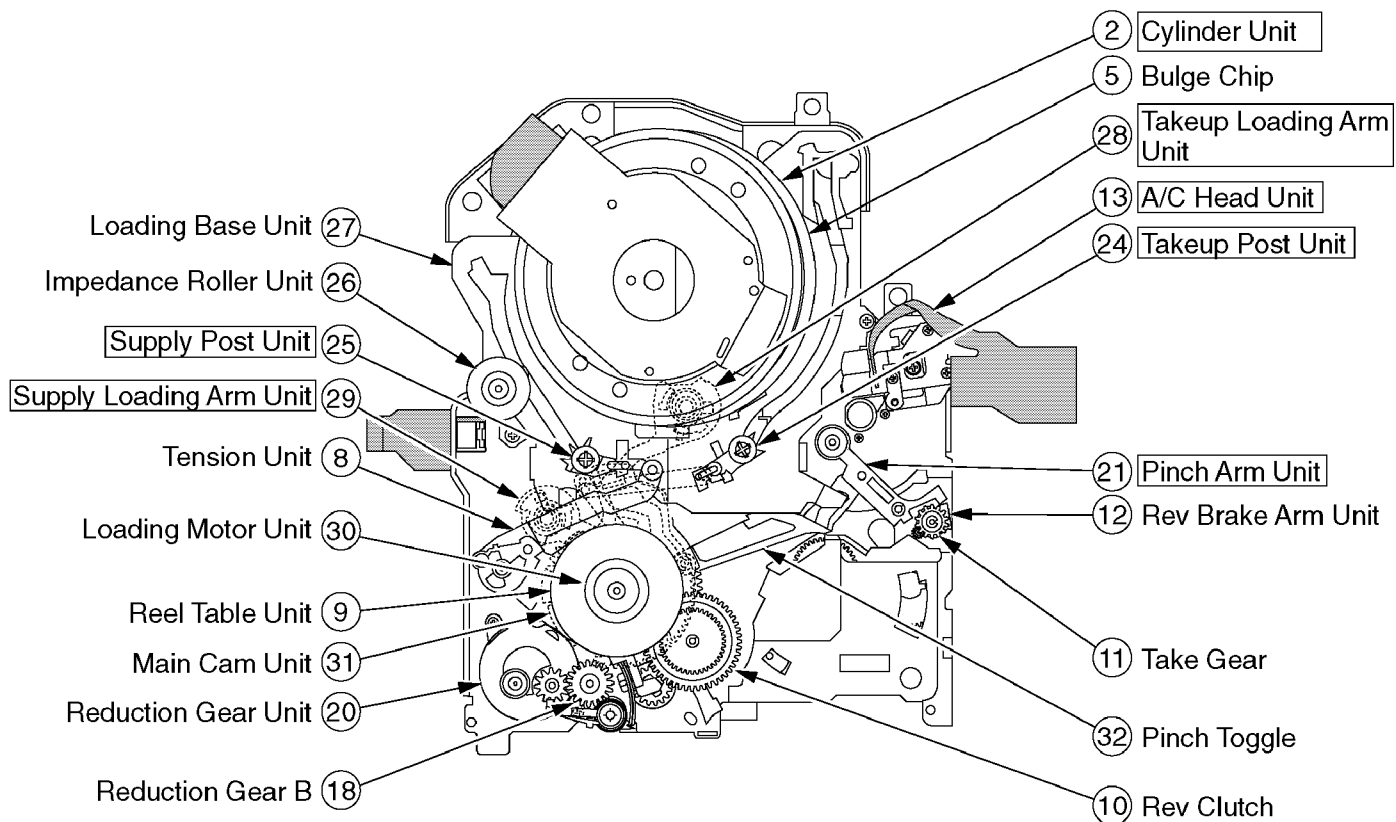


Fig. DM1-1

7.2.2.2. BOTTOM VIEW

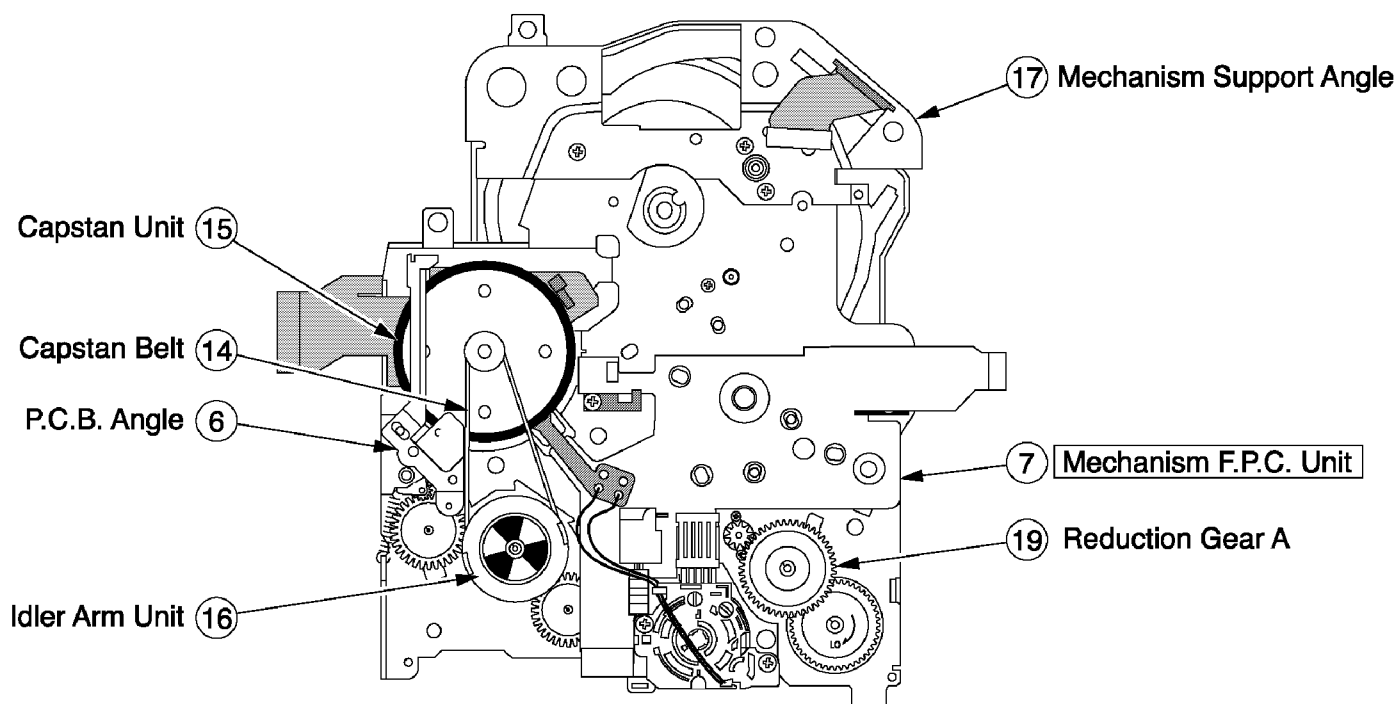
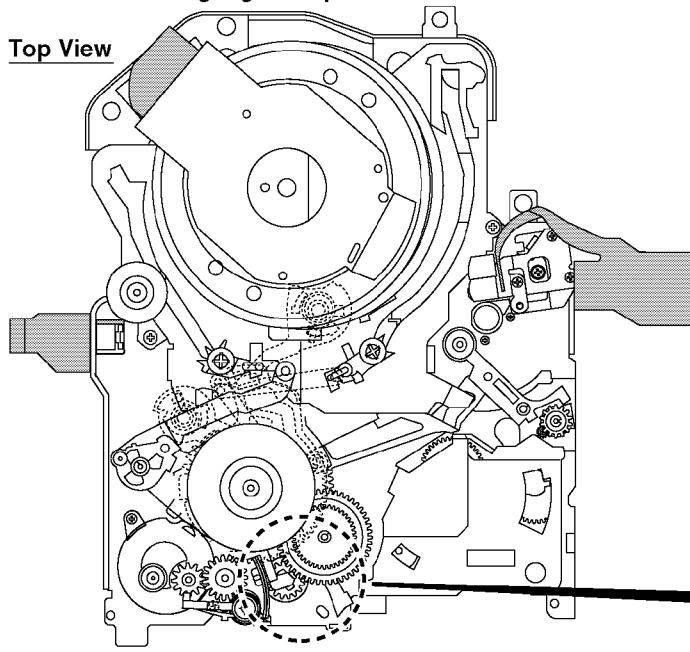


Fig. DM1-2

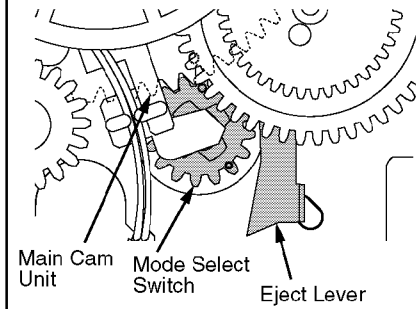
7.2.3. STOP Position Confirmation

Check the following alignment points to confirm that the Mechanism is in STOP Position from the Top and Bottom View.

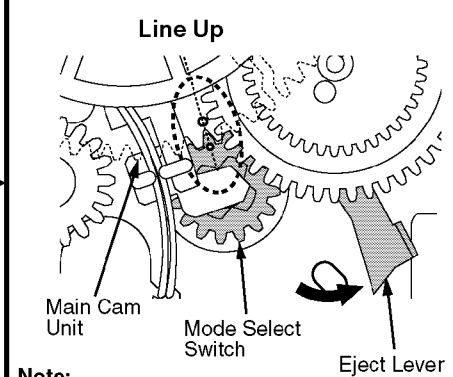
Top View



EJECT Position

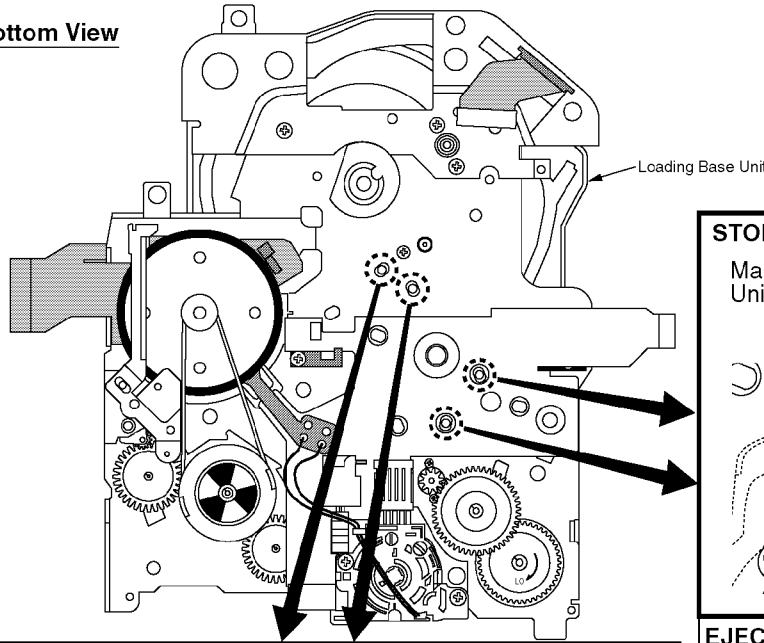


STOP Position

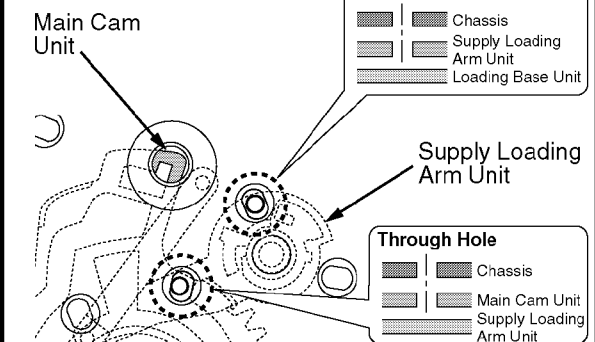


Note:
Slide the Eject Lever when installing the
Cassette Up Unit.

Bottom View



STOP Position



EJECT Position

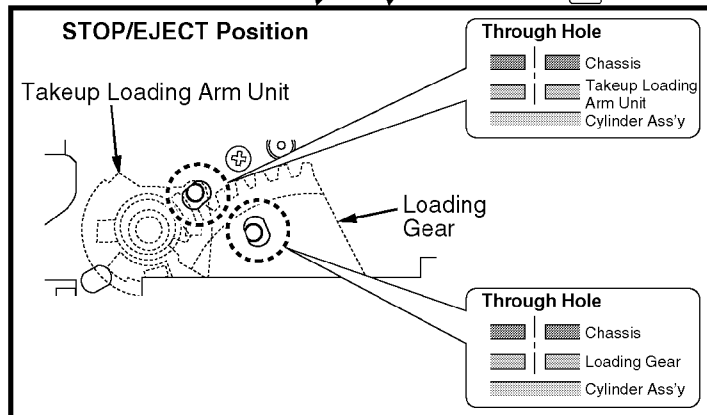
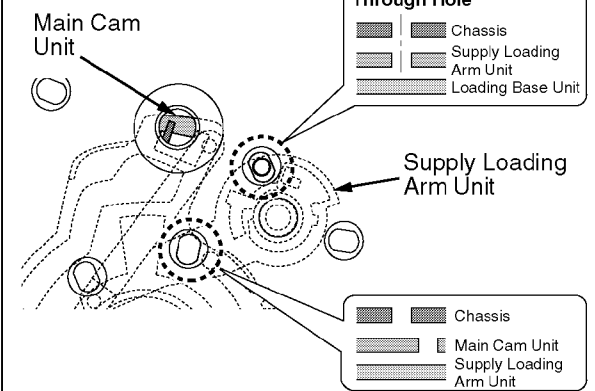


Fig. DM2

Perform all disassembly and alignments procedures in STOP Position except disassembly and alignment procedures which have the special Notes.

7.2.4. Cassette Up Unit

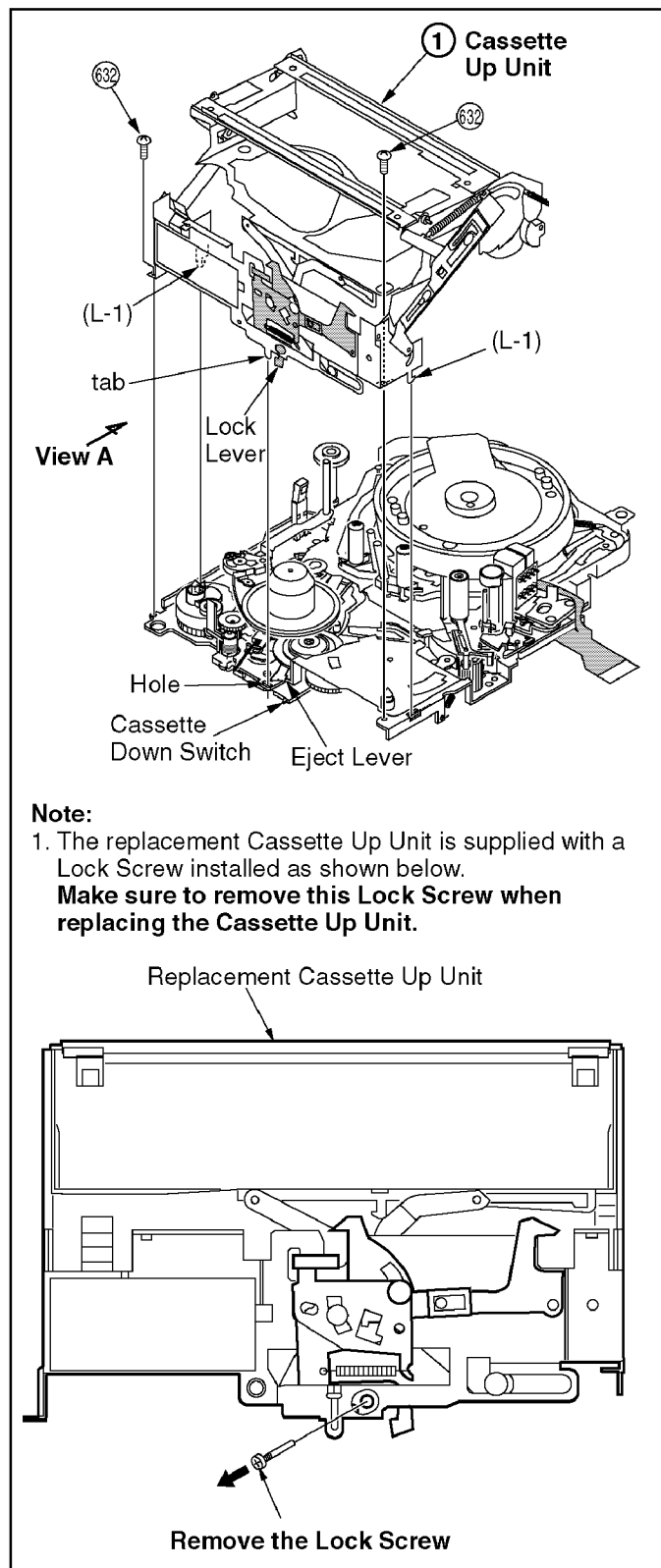


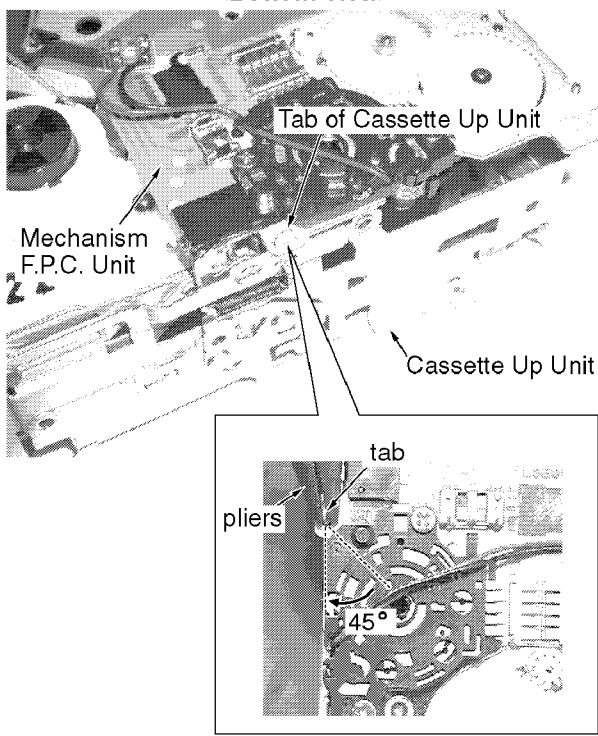
Fig. DM3-1-1

CAUTION:

The tab of the Cassette Up Unit has been bent when installed.

When removing the Cassette Up Unit, using pliers, straighten the tab 45° to remove the Cassette Up Unit.

<Bottom View>



Note:

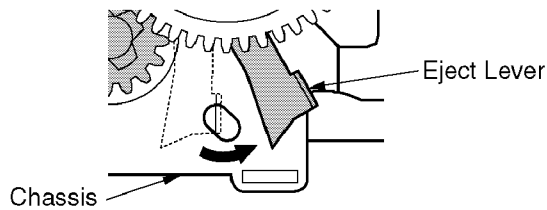
Be careful not to break the tab off.

Fig. DM3-1-2

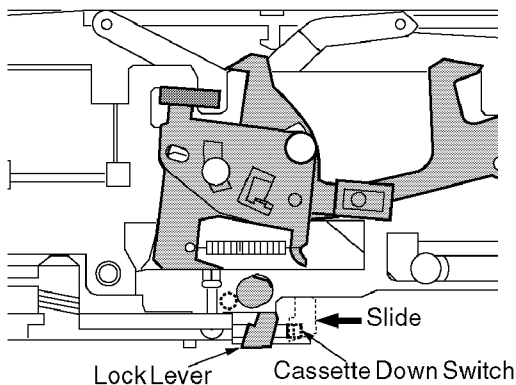
Reassembly Note:**1. Installation of the Cassette Up Unit**

Installation is possible except when the Mechanism is in Eject Position.

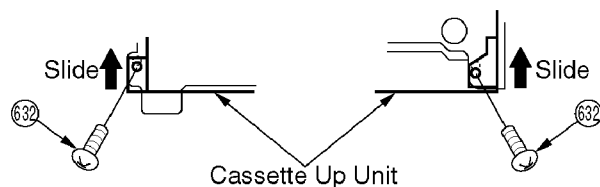
- (1) Before installing the Cassette Up Unit, confirm that the Eject Lever is slid as shown.

**Top View**

- (2) Slide the Lock Lever. (Otherwise, the Lock Lever may damage the Cassette Down Switch when installing the Cassette Up Unit.)

**View A**

- (3) Then, Install the Cassette Up Unit while setting 2 Locking Tabs (L-1). Next, insert Pin into Hole on the Chassis.
- (4) Slide the Cassette Up Unit as far as possible as indicated by the arrow. Then, tighten 2 Screws (632).

**Top View**

- (5) After installing the Cassette Up Unit, confirm that the Lock Lever is on the left of the Eject Lever as shown.

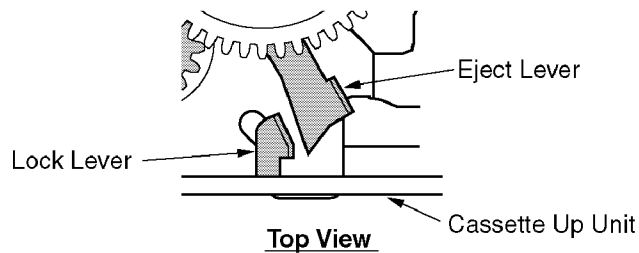
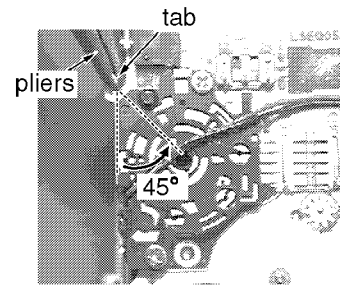
**Top View**

Fig. DM3-2-1

CAUTION:

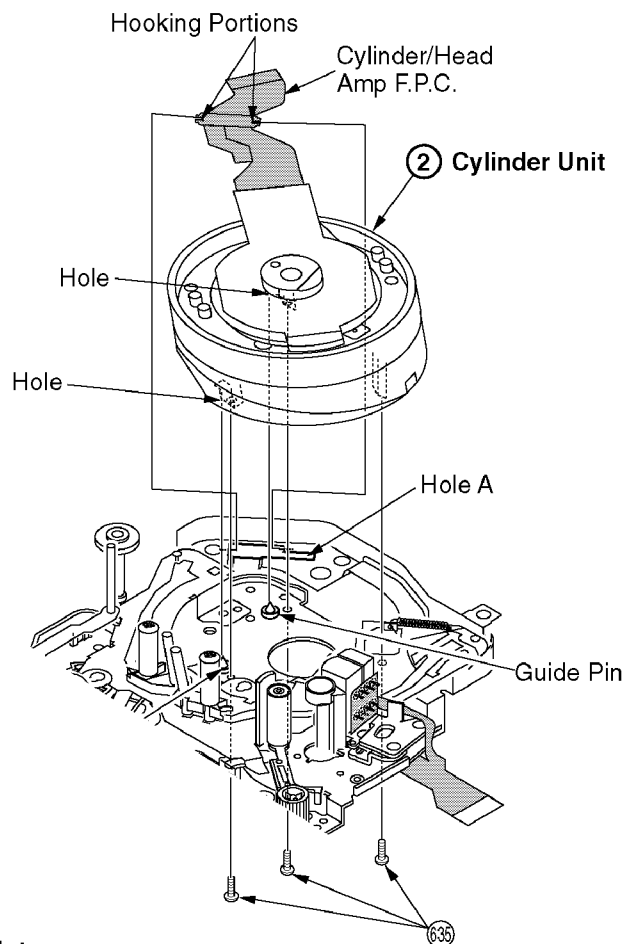
When installing the Cassette Up Unit, bend the tab 45° again using pliers as shown.

**Note:**

Be careful not to break the tab off.

Fig. DM3-2-2

7.2.5. Cylinder Unit

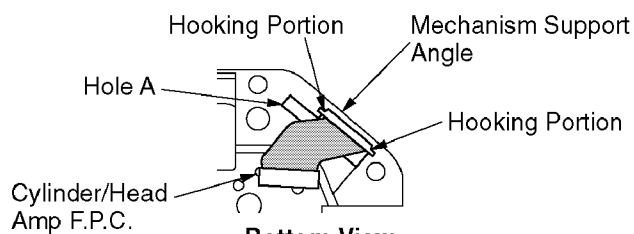


Note:

1. Use extreme care when removing the Cylinder Unit. Do not touch the Video Heads during servicing.
2. **Removal of the Cylinder Unit**
 - (1) Unhook the Cylinder/Head Amp F.P.C. while lifting up the Cylinder Unit slightly and remove it from the Hole A.

Reassembly Note:

1. Use extreme care when replacing the Cylinder Unit. Do not touch the Video Heads during servicing.
2. **Installation of the Cylinder Unit**
 - (1) Insert the Cylinder/Head Amp F.P.C. to Hole A first.
 - (2) Install the Cylinder Unit so that 2 Holes on the Lower Cylinder Unit surface fit over the 2 Guide Pins on the Chassis. Then, tighten 3 Screws 635.
 - (3) Hook the Cylinder/Head Amp F.P.C. as shown.



3. Adjustment of the Cylinder Unit

- (1) After replacing, perform the "Tape Interchangeability Adjustment" procedures.

Fig. DM4-1-1

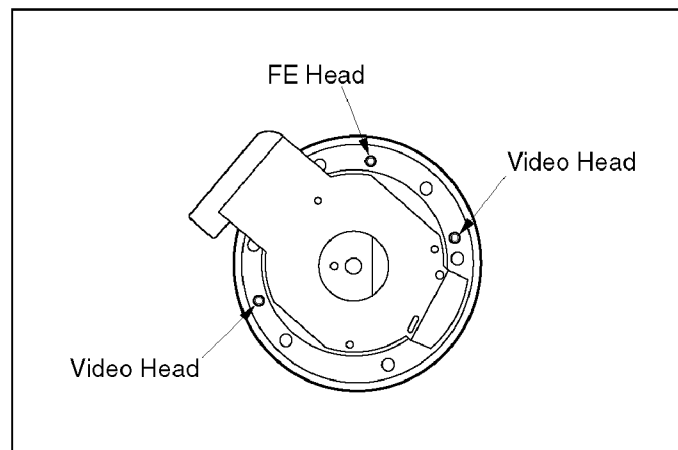
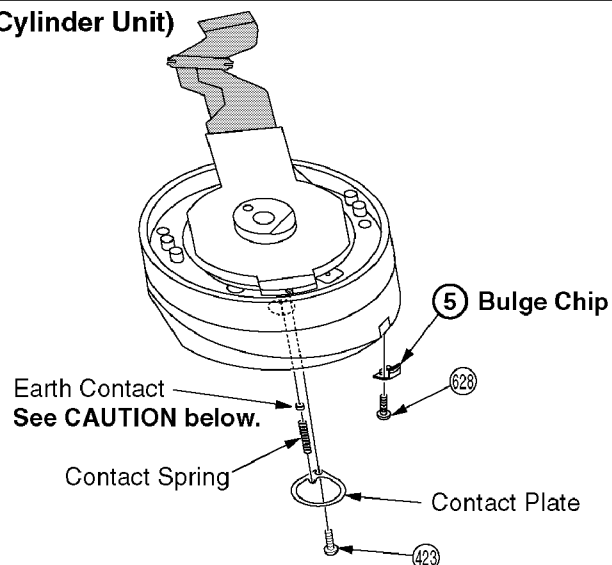


Fig. DM4-1-2

7.2.6. Bugle Chip

(Cylinder Unit)



Note:

1. Use extreme care when removing the Bulge Chip. Do not touch the Video Heads during servicing.
2. **Removal of the Contact Plate, Contact Spring, Earth Contact**
 - (1) Remove a Screw (423), then remove the Contact Plate, Contact Spring, and Earth Contact in the order.

Reassembly Note:

1. Use extreme care when replacing the Bulge Chip. Do not touch the Video Heads during servicing.
2. **Installation of the Contact Plate, Contact Spring, Earth Contact**
 - (1) Install the Earth Contact, Contact Spring, and Contact Plate in the order. Then, tighten a Screw (423).

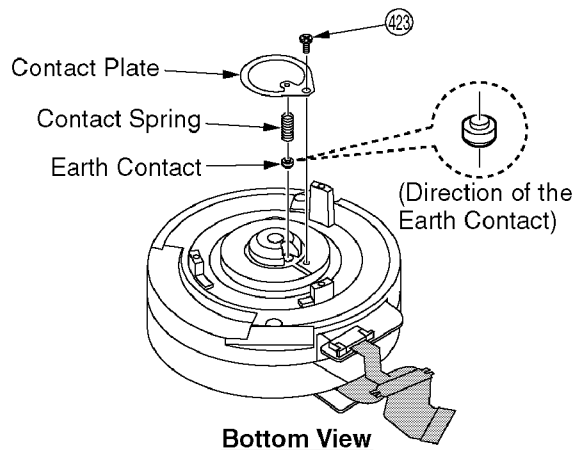
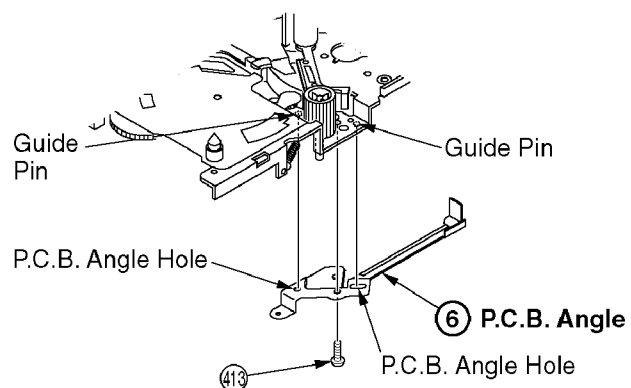


Fig. DM4-2

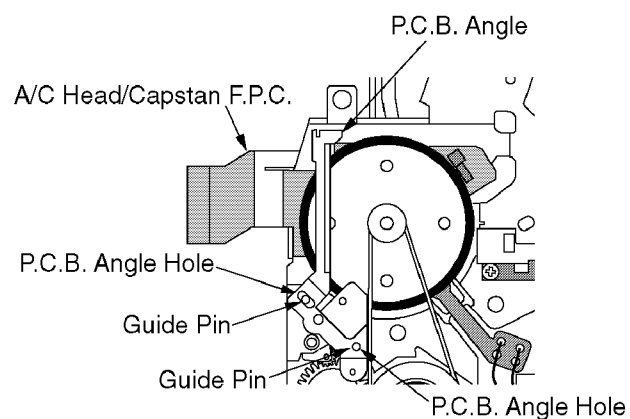
7.2.7. P.C.B. Angle



Reassembly Note:

1. Installation of the P.C.B. Angle

- (1) Install the P.C.B. Angle so that the 2 P.C.B. Angle Holes fit over the 2 Guide Pins on the Chassis. Work carefully so as not to damage the A/C Head/Capstan F.P.C.



Bottom View

Fig. DM5

7.2.8. Mechanism F.P.C Unit

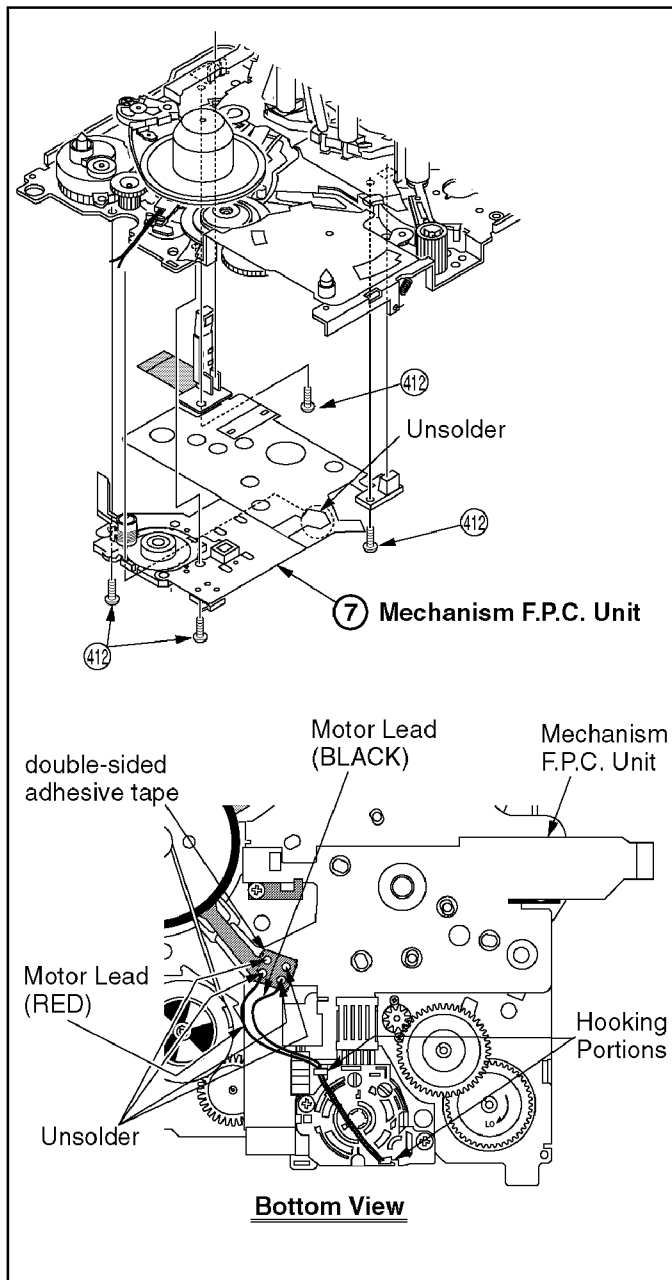


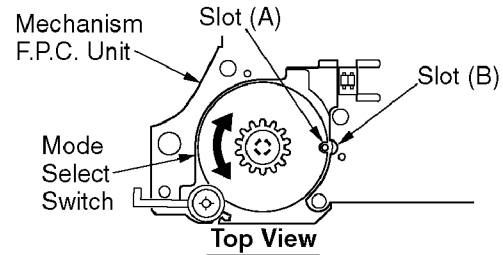
Fig. DM6-1

Reassembly Note:

1. Gear Alignment

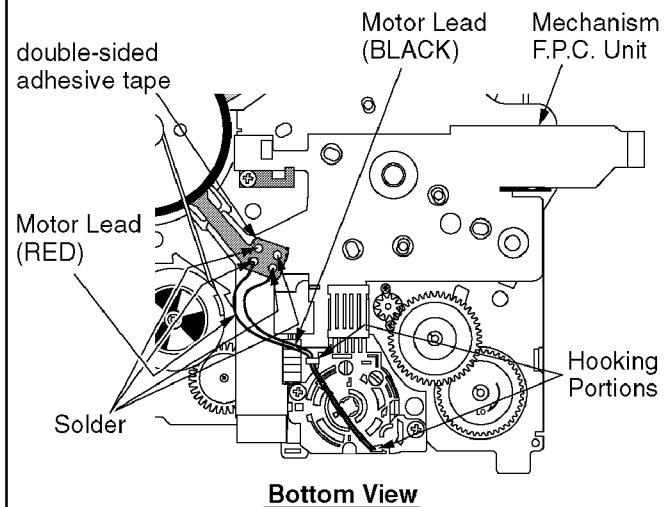
• The Mode Select Switch and the Main Cam Unit

- (1) Place the Mechanism in the **STOP Position** by rotating the Gear of Reduction Gear Unit.
- (2) Before installing the Mechanism F.P.C. Unit, rotate the Mode Select Switch of Mechanism F.P.C. Unit so that Slot (A) is aligned with Slot (B).



2. Installation of the Mechanism F.P.C. Unit

- (1) Install the Mechanism F.P.C. Unit to the bottom of the Chassis. Then, tighten 4 Screws (412).
- (2) Solder the Motor Leads as shown.
- (3) Hook the Motor Leads and the tube to Hooking Portions together.
- (4) Confirm that the Motor Leads are set correctly on the Mechanism F.P.C. Unit as shown.



- (7) Confirm that the Mode Select Switch is in STOP Position from the Top side.

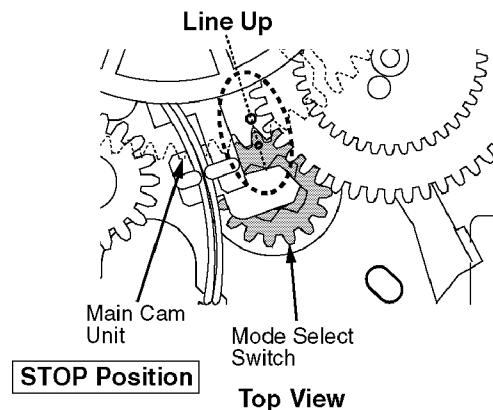


Fig. DM6-2

7.2.9. Tension Unit, Reel Table Unit

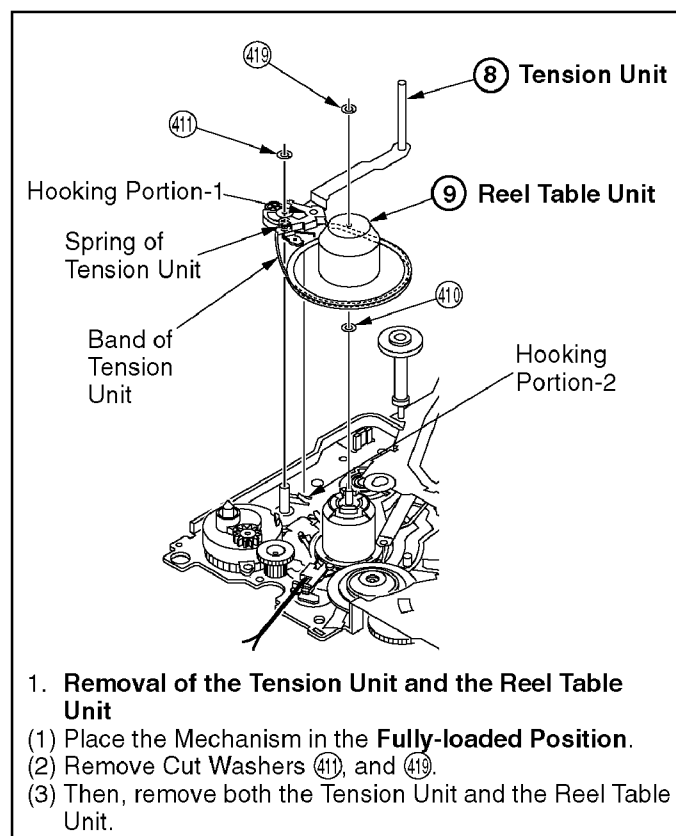
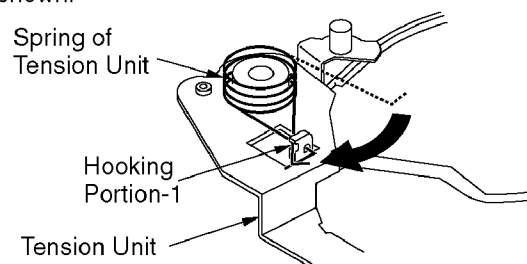


Fig. DM7-1

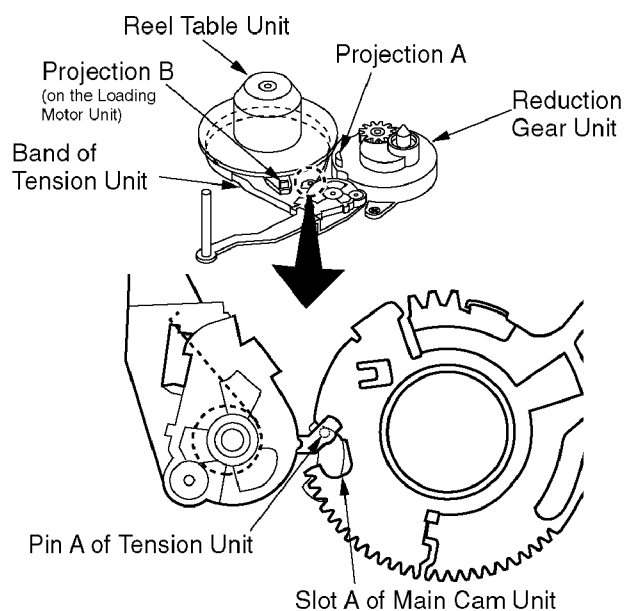
Reassembly Note:

1. Installation of the Reel Table Unit and the Tension Unit

- (1) Before installing the Reel Table Unit and the Tension Unit, place the Mechanism in the **Fully-loaded Position** by rotating the Gear of Reduction Gear Unit.
- (2) Install a Washer (419) onto the Loading Motor Unit first.
- (3) Hook the Spring of Tension Unit to the Tension Unit as shown.

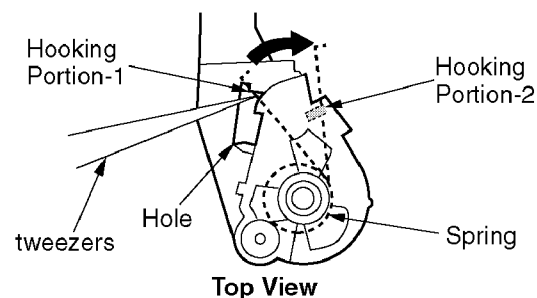


- (4) Hook the Band of Tension Unit to the groove of Reel Table Unit.
- (5) Install both the Reel Table Unit and Tension Unit to the Chassis so that the Pin A of Tension Unit is set into Slot A of the Main Cam Unit. Confirm that the Band of Tension Unit keeps off Projection A and B.



Top View

- (5) Unhook the Spring of Tension Unit from Hooking Portion-1 with tweezers etc. inserted through Hole to let it hook to Hooking Portion-2 on the chassis.



- (6) Install Cut Washers (419), and (411).

Fig. DM7-2

7.2.10. Rev Clutch

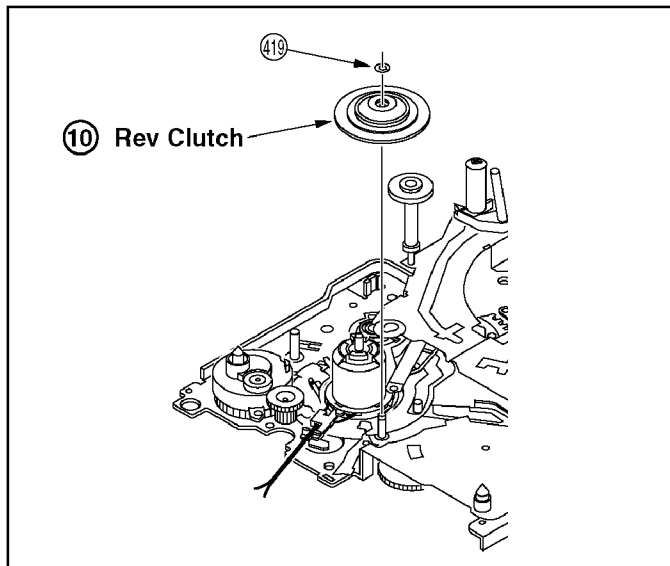
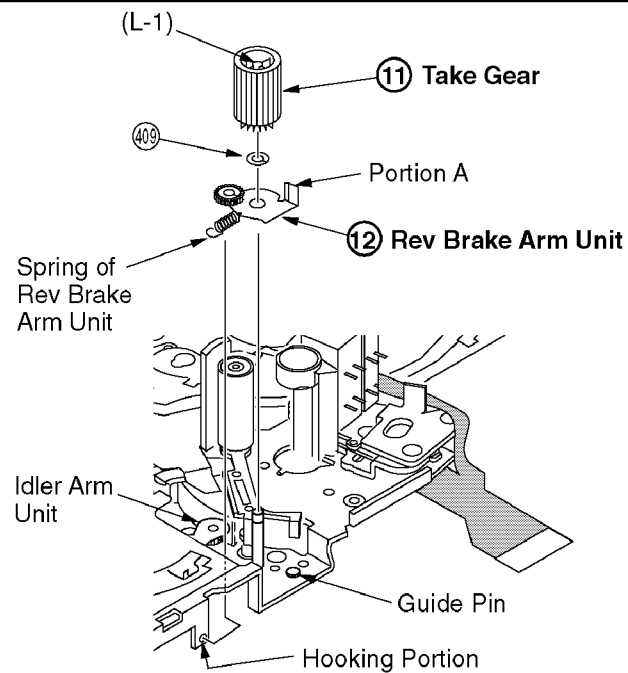


Fig. DM8

7.2.11. Take Gear, Rev Brake Arm Unit



Note:

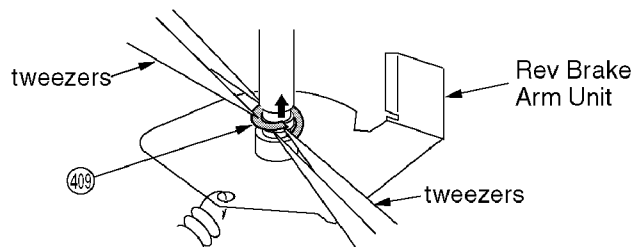
1. Removal of the Rev Brake Arm Unit

(1) Before removing, move the Idler Arm Unit aside.

(2) Remove a Cut Washer (409) with tweezers etc.

Tips on removal of the Cut Washer (409):

Push up one side while pushing the other side of Cut Washer.

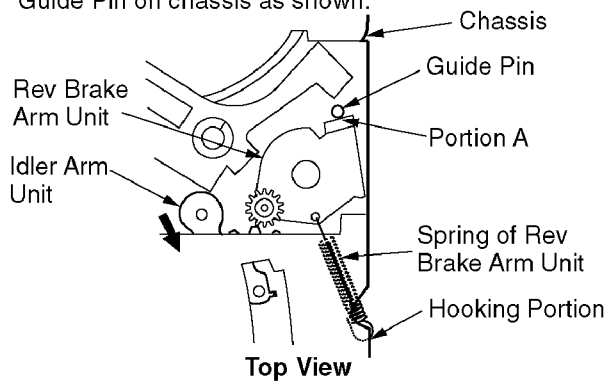


(3) Remove the Rev Brake Arm Unit after unhooking the Spring of Rev Brake Arm Unit.

Fig. DM9-1

Reassembly Note:**1. Installation of the Rev Brake Arm Unit**

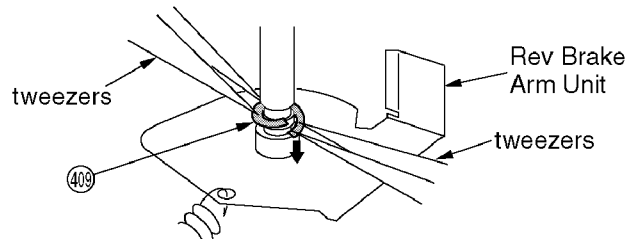
- (1) Before installing the Rev Brake Arm Unit, move the Idler Arm Unit aside as indicated by the arrow.
- (2) Hook the Spring of Rev Brake Arm Unit to the Hooking Portion. After hooking the Spring, confirm that Portion A of the Rev Brake Arm Unit does not pass over the Guide Pin on chassis as shown.



- (3) Install a Cut Washer (409) with tweezers.

Tips on installation of the Cut Washer (409):

Push down one side while pushing the other side of Cut Washer.



- (4) After installing, confirm that a Cut Washer (409) can be rotated.

2. Installation of the Take Gear

- (1) Before installing the Take Gear, move the Idler Arm Unit aside as indicated by the arrow.
 - (2) Install the Take Gear while rotating so it engages with Gear A so as not to cause damage. Then, confirm that Locking Tab (L-1) is set.
- Note:** Use extreme care when installing the Take Gear. If Locking Tab (L-1) is broken, install a new Take Gear.

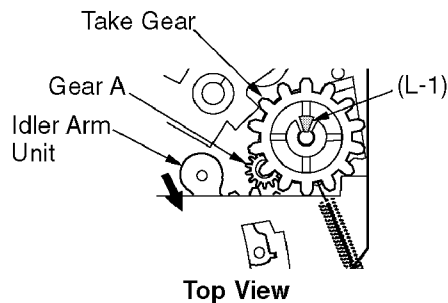
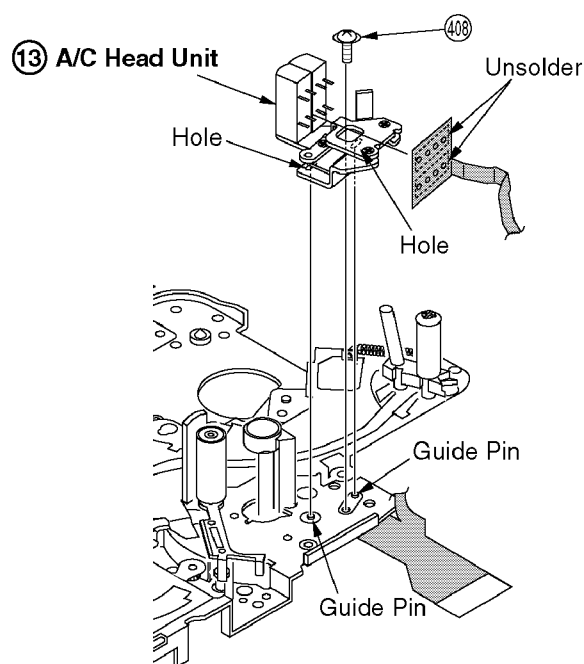
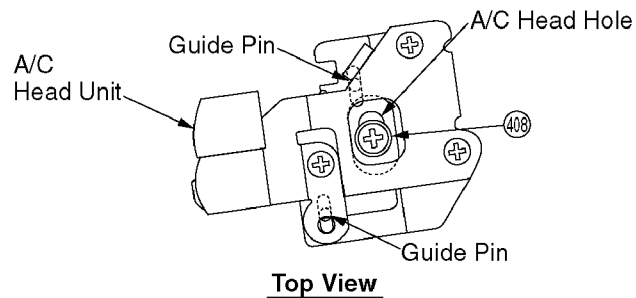


Fig. DM9-2

7.2.12. A/C Head Unit**Reassembly Note:****1. Installation of the A/C Head Unit**

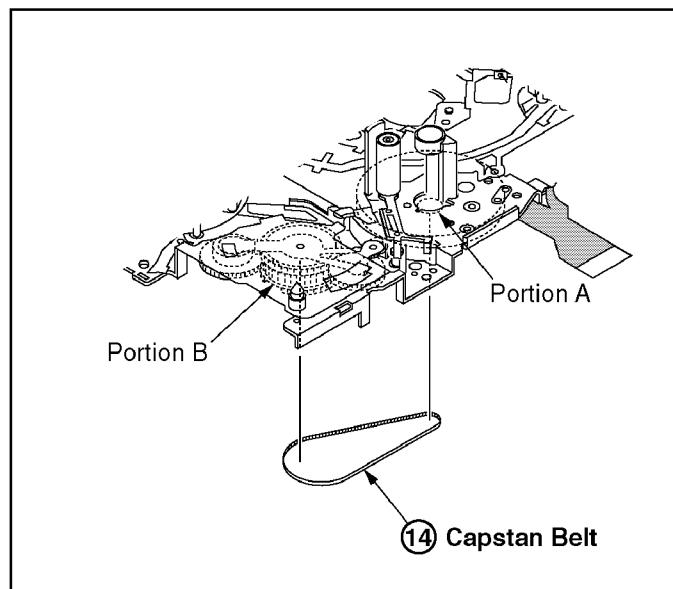
- (1) Install A/C Head Unit so that 2 Guide Pins are in holes on the A/C Head Unit.
- (2) Tighten a Screw (408) (1.0 ~ 1.3 kgf•cm) in the approximate center of the hole.

**2. Adjustment of the A/C Head Unit**

- (1) After replacing, perform the "Tape Interchangeability Adjustment" procedures.

Fig. DM10

7.2.13. Capstan Belt



Reassembly Note:

1. Tips on Installation of the Capstan Belt

- (1) Hook the Capstan Belt to Portion A of Capstan Unit at first as shown.
- (2) Hook the Capstan Belt to Portion B of Idler Arm Unit.
- (3) Rotate the Idler Arm Unit as indicated by the arrow (counterclockwise) and set it completely.

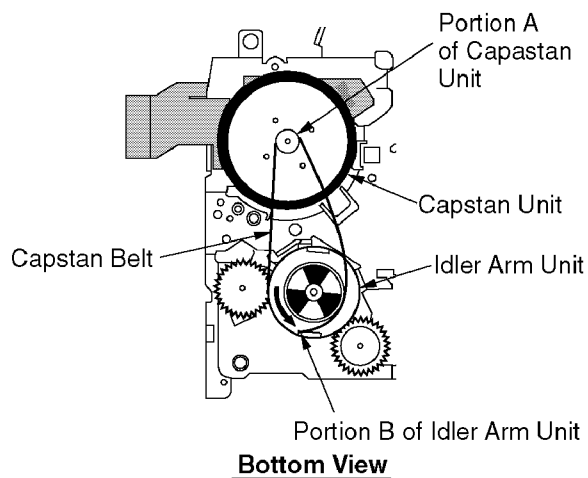


Fig. DM11

7.2.14. Capstan Unit

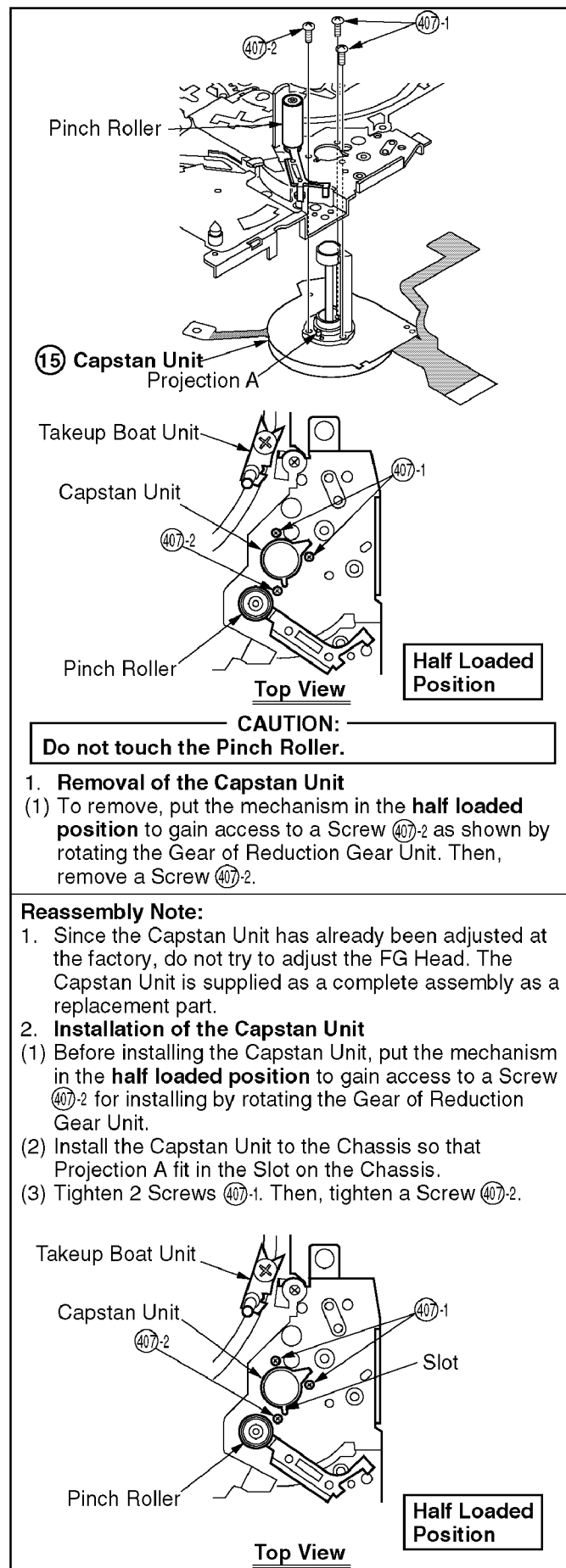
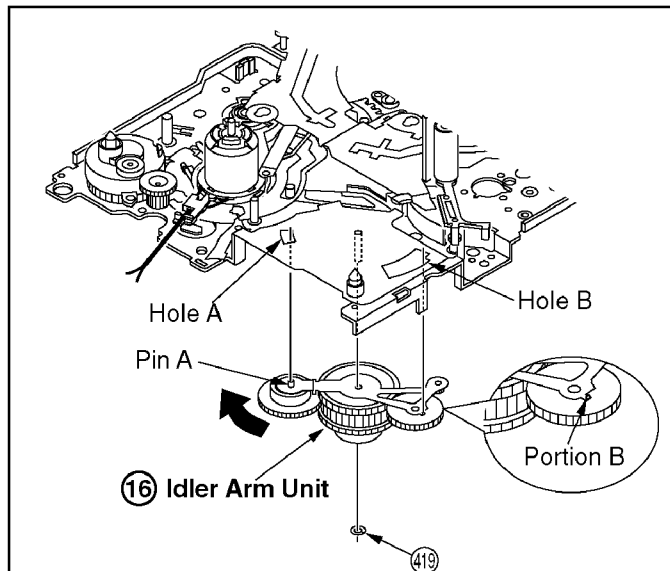


Fig. DM12

7.2.15. Idle Arm Unit



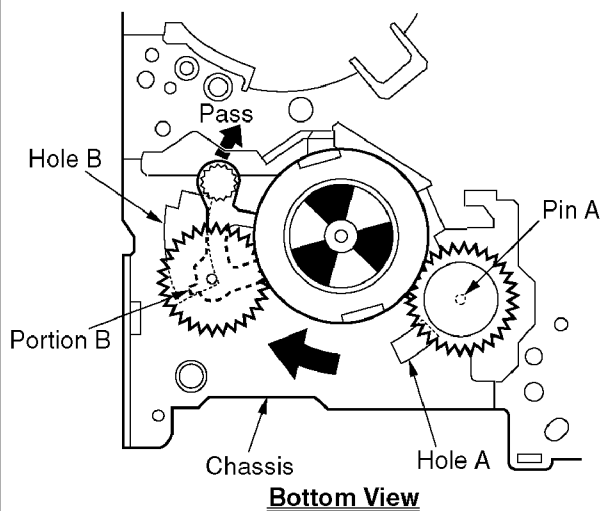
1. Removal of the Idle Arm Unit

- (1) To remove the Idle Arm Unit, pull the Idle Arm Unit slightly from the Chassis to release Pin A from Hole A. Then, remove the Idle Arm Unit while turning as indicated by the arrow.

Reassembly Note:

1. Installation of the Idle Arm Unit

- (1) Set the Idle Arm Unit so that Portion B is in Hole B as shown.
- (2) Turn the Idle Arm Unit slightly as indicated by arrow to set Pin A in Hole A.



- (3) Install a Cut Washer ④19.

Fig. DM13

7.2.16. Mechanism Support Angle

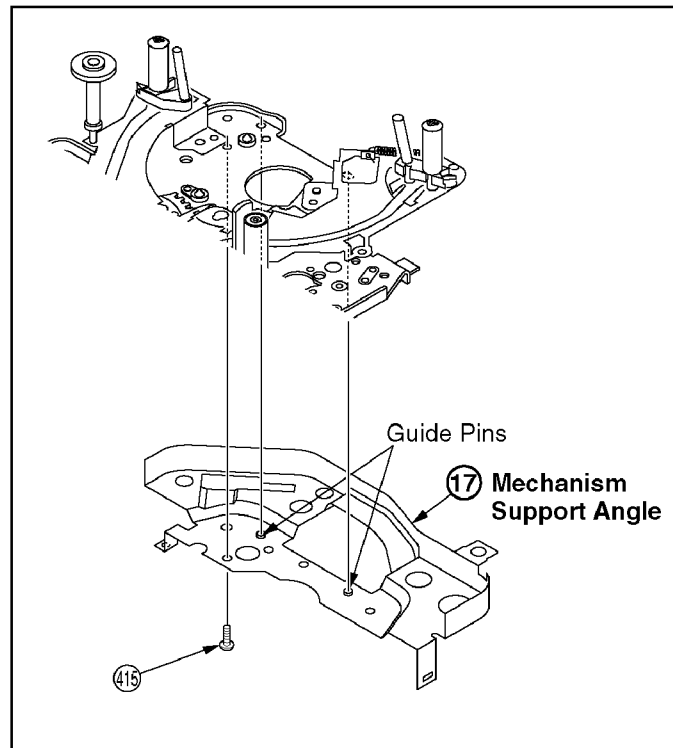
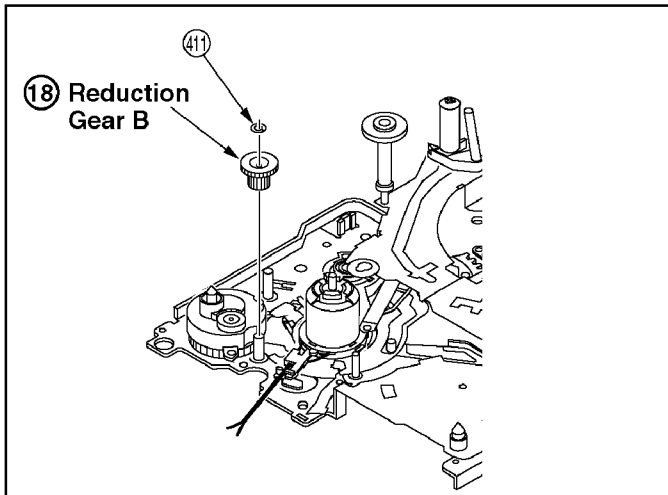


Fig. DM14

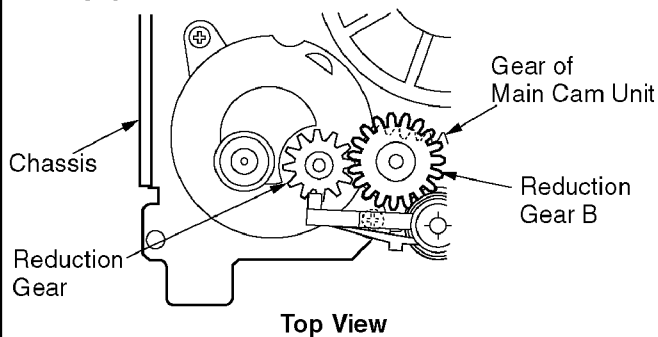
7.2.17. Reduction Gear B



Reassembly Note:

1. Installation of the Reduction Gear B

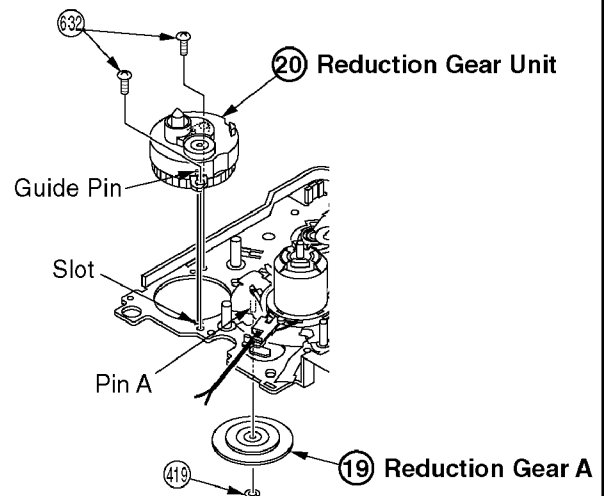
- (1) Install the Reduction Gear B while rotating so it engages with the Gear of Main Cam Unit as shown.



- (2) Confirm that the Mechanism can be loaded or unloaded by rotating the Gear of Reduction Gear Unit.

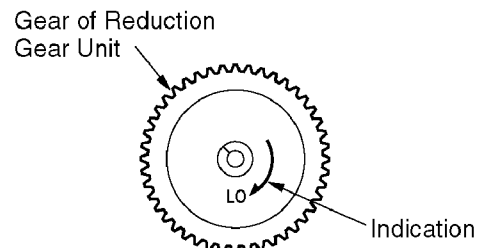
Fig. DM15

7.2.18. Reduction Gear A, Reduction Gear Unit



Indication on Gear of Reduction Gear Unit

The arrow indicated on the Gear of Reduction Gear Unit shows the direction to load.



Bottom View

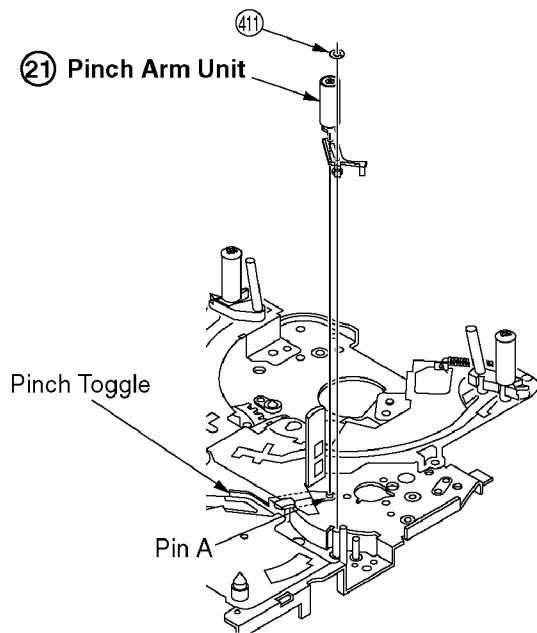
Reassembly Note:

1. Installation of the Reduction Gear Unit

- (1) Install the Reduction Gear Unit so that Guide Pin fits in the Slot on the Chassis.
Then, tighten 2 Screws (632).

Fig. DM16

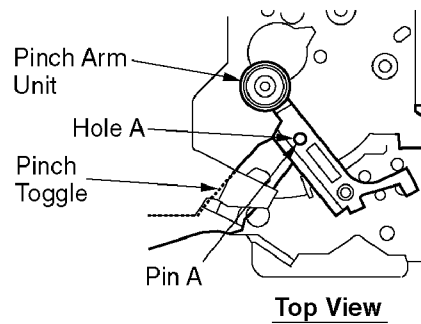
7.2.19. Pinch Arm Unit



Reassembly Note:

1. Installation of the Pinch Arm Unit

- (1) Install the Pinch Arm Unit.
- (2) Fit Hole A on the Pinch Arm Unit over Pin A on the Pinch Toggle as shown.



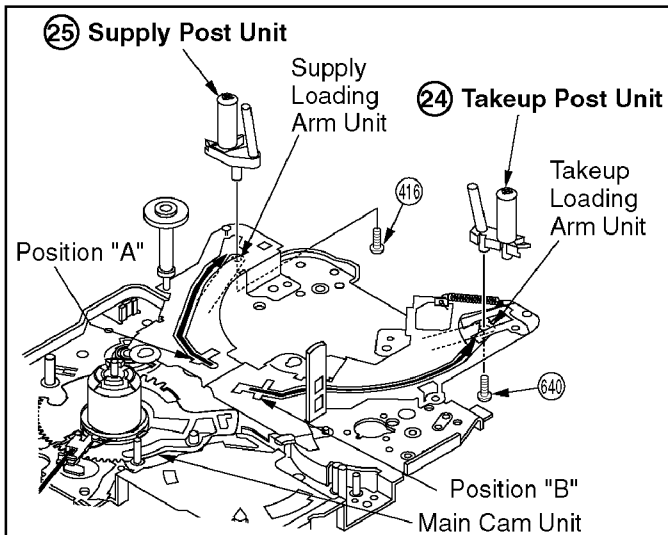
- (3) Install the a Cut Washer ④11.

2. Adjustment of the Pinch Arm Unit

- (1) After replacing, perform the "Tape Interchangeability Adjustment" procedures.

Fig. DM17

7.2.20. Takeup Post Unit, Supply Post Unit



Note:

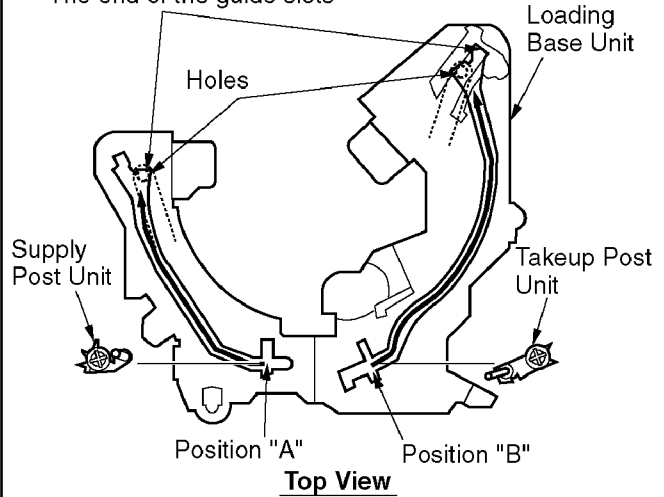
1. **Removal of the Supply Post Unit and the Takeup Post Unit**
 - (1) Load the Mechanism to the **Loading Position** to gain access to a Screw (640) and (416) for removal by rotating the Main Cam Unit.
 - (2) Then, remove a Screw (640) and (416).
 - (3) Put the arm of the Supply Loading Arm Unit and the Takeup Loading Arm Unit aside.
 - (4) Slide back the Supply Post Unit and the Takeup Post Unit to Position "A" and "B" and remove.

Fig. DM18-1

Reassembly Note:

1. **Installation of the Supply Post Unit and the Takeup Post Unit**
 - (1) Confirm that the end of the arm (the threaded hole) of Supply Loading Arm Unit and the end of the arm (the threaded hole) of Takeup Loading Arm Unit are in the end of the guide slots.
 - (2) Install the Supply Post Unit and the Takeup Post Unit into Position "A" and "B" while being careful of the direction of the Supply Post Unit and the Takeup Post Unit.
 - (3) Slide the Supply Post Unit and the Takeup Post Unit to the end of guide slots as shown.

The end of the guide slots



- (4) Align the Hole of the Supply Loading Arm Unit with the Threaded Hole of the Supply Post Unit. Do the Same with the Takeup Post Unit.
- (5) Tighten a Screw (640) and (416).

Caution:

Be careful of the following when tightening a Screw (640) and (416).

1. Be sure to tighten screws straight.
2. Do not over tighten screws.

2. Adjustment of the Supply Boat Unit and Takeup Boat Unit

- (1) After replacing, perform the "Tape Interchangeability Adjustment" procedures.

Fig. DM18-2

7.2.21. Impedance Roller Unit, Loading Base Unit

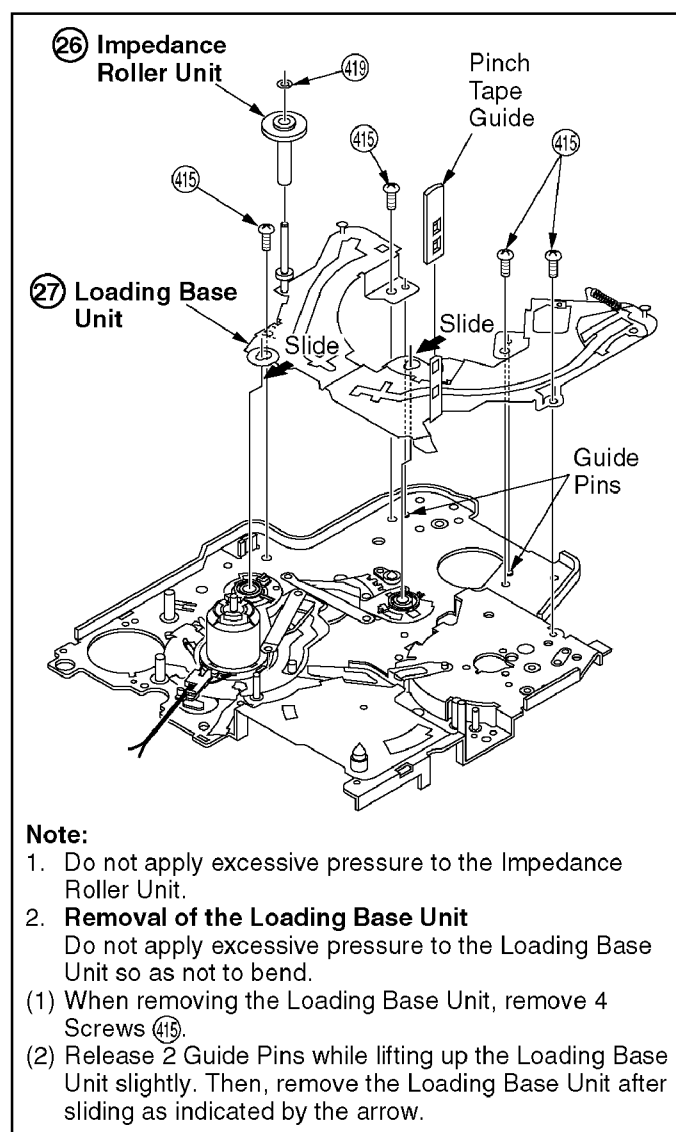


Fig. DM19-1

Reassembly Note:

1. Installation of the Loading Base Unit

- Before installing the Loading Base Unit, rotate the Main Cam Unit clockwise (to change the gear position from STOP position (Fig. DM20) to Standby position (Fig. DM19-2)) so that Holes A, B, C, and D are Through Holes with holes on the chassis.
- Confirm that Portion (a) of Supply Loading Arm Unit and (b) of Takeup Loading Arm Unit are in the position keeping off Thread Holes for 4 Screws 415 as shown. Because the Threaded Holes of the S and T Post are aligned with Hole of the S and T Loading Arm Unit.
- Install the Loading Base Unit while sliding.
- Tighten 4 Screws 415.

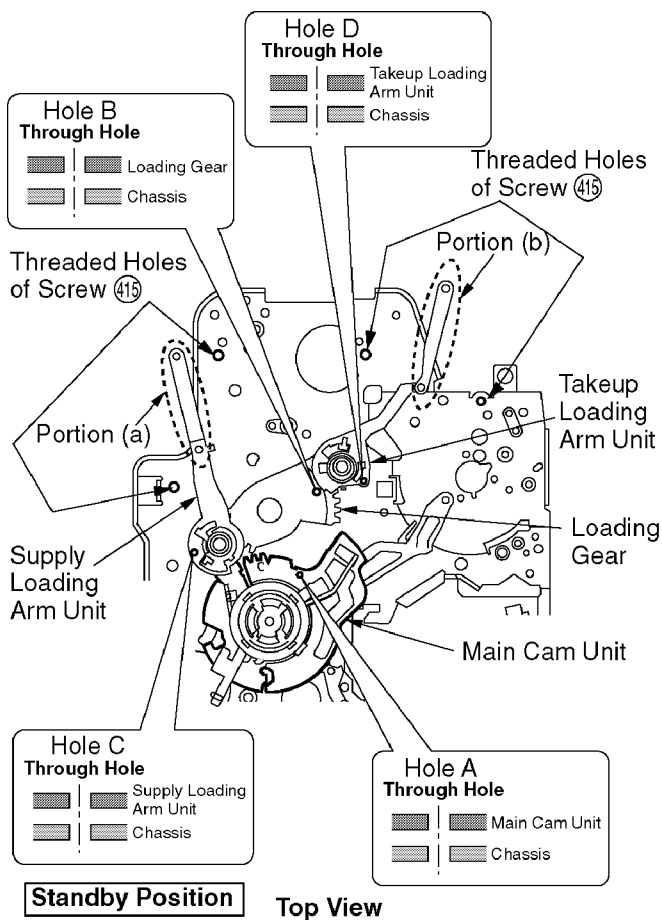
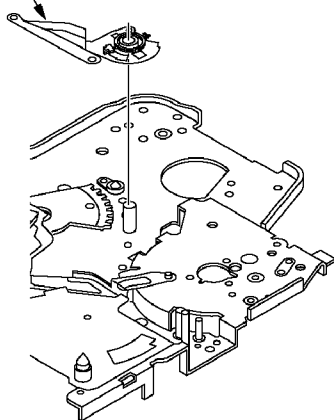


Fig. DM19-2

7.2.22. Takeup Loading Arm Unit

②⑧ Takeup Loading Arm Unit



Reassembly Note:

1. Gear Alignment

- The Takeup Loading Arm Unit and the Loading Gear

- (1) Rotate the Main Cam Unit counterclockwise (to change the gear position from Fully loaded position (Fig. DM21-2) to STOP position (Fig. DM20)) so that Hole C on the Supply Loading Arm Unit and Hole B on the Loading Gear are Through Holes with holes on the chassis.
- (2) Install the Takeup Loading Arm Unit while aligning Hole D with the hole on the chassis (Through Hole) as shown.

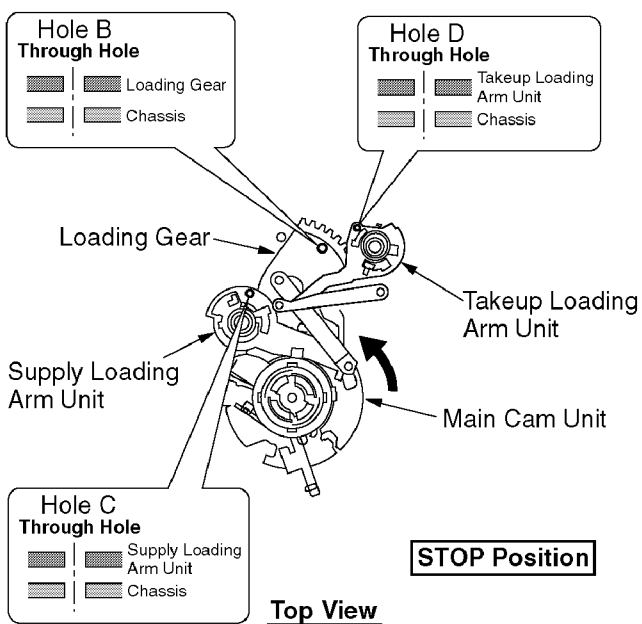


Fig. DM20

7.2.23. Supply Loading Arm Unit

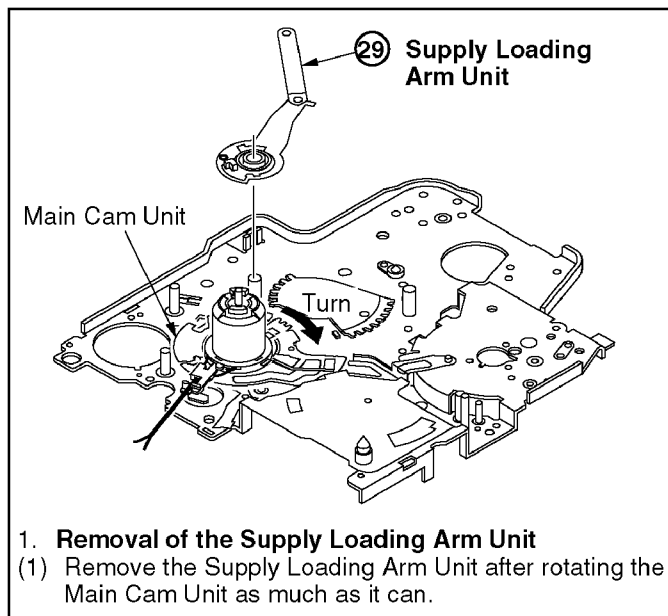


Fig. DM21-1

Reassembly Note:

1. **Gear Alignments**
 - The Supply Loading Arm Unit and the Loading Gear
 - The Supply Loading Arm Unit and the Main Cam Unit
- (1) Confirm that Hole A on the Main Cam Unit is a Through Hole with a hole on the chassis by rotating the Main Cam Unit clockwise as much as possible. Also, make sure the Loading Gear makes contact with contact point.
- (2) Set the Supply Loading Arm Unit so that the last tooth of its lower gear is just outside the last tooth of the Loading Gear as shown.
- (3) Turn the Main Cam Unit counterclockwise first ①, then turn Supply Loading Arm Unit clockwise slightly ② so that the last tooth on upper gear of Supply Loading Arm Unit is just outside tooth (a) of Main Cam Unit.

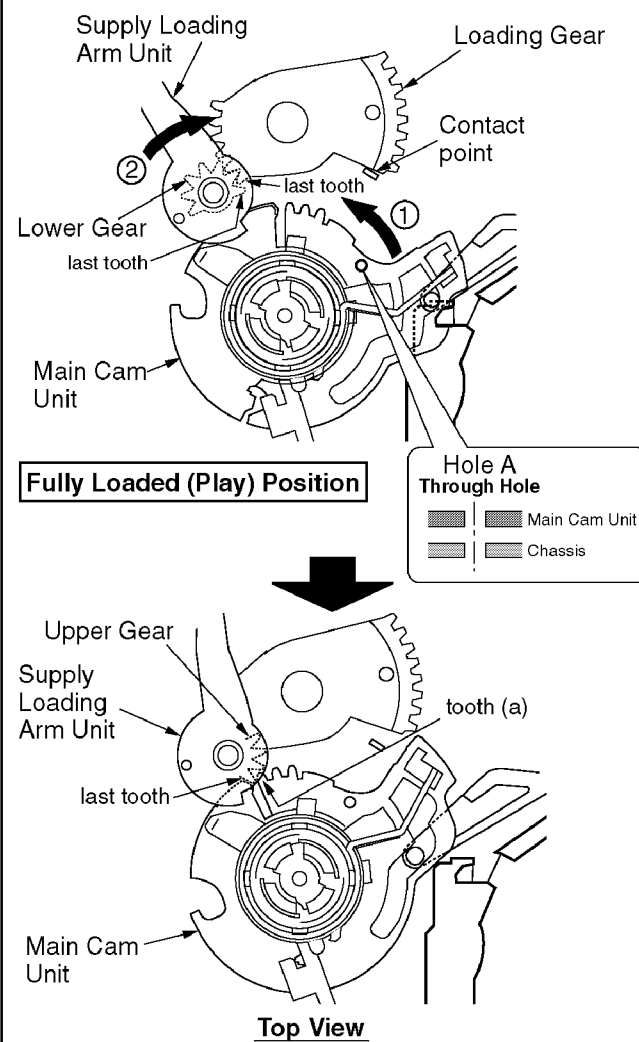


Fig. DM21-2

(4) Confirm that Hole A, B, and C are Through Holes by rotating the Main Cam Unit.

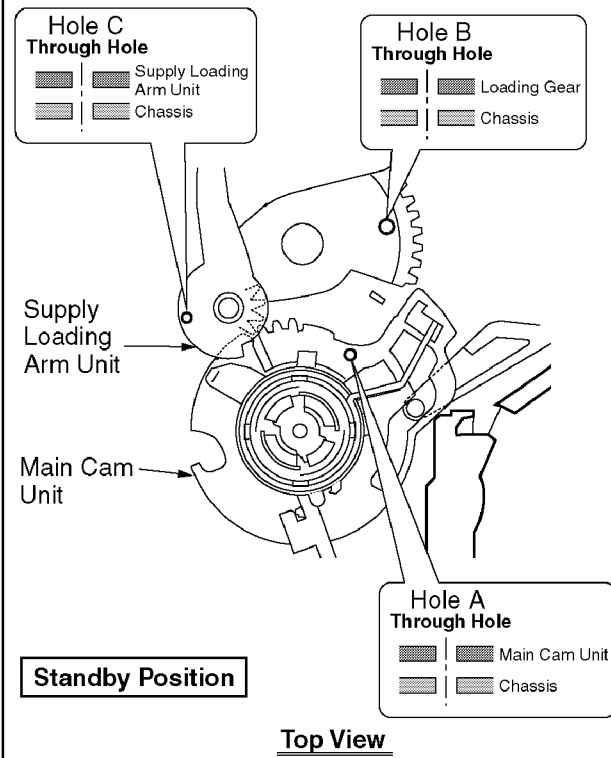


Fig. DM21-3

7.2.24. Loading Motor Unit, Main Cam Unit, Pinch Toggle

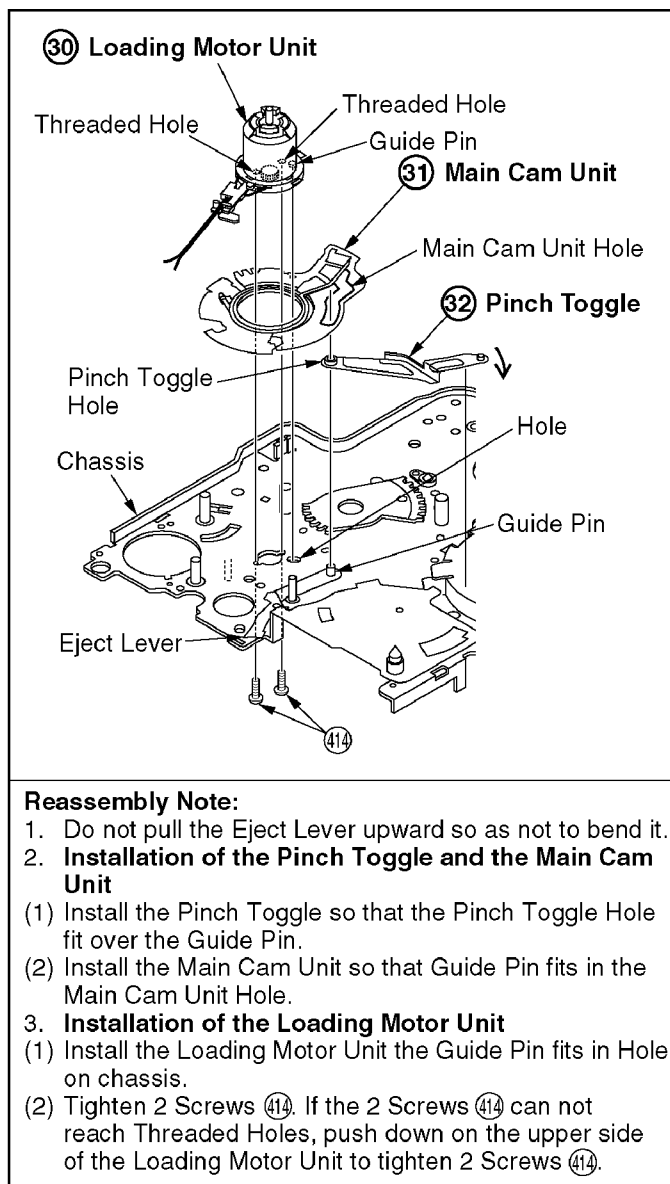
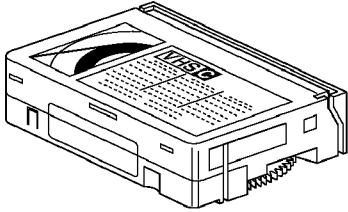
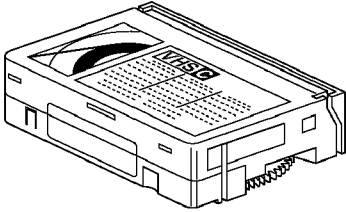
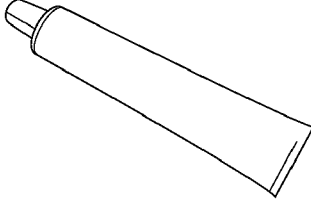
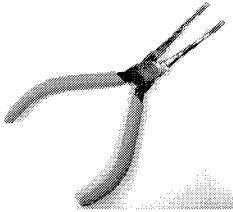
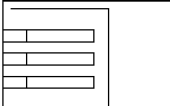
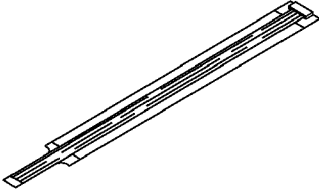
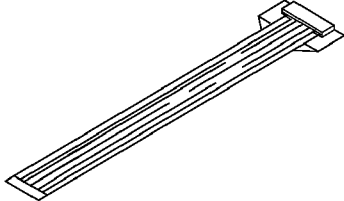
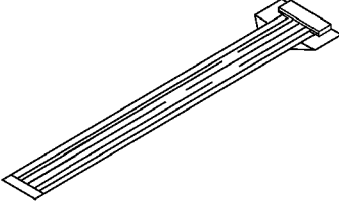
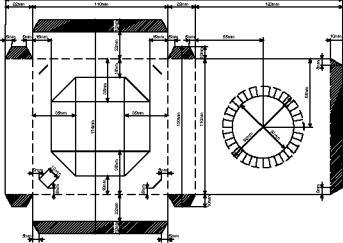
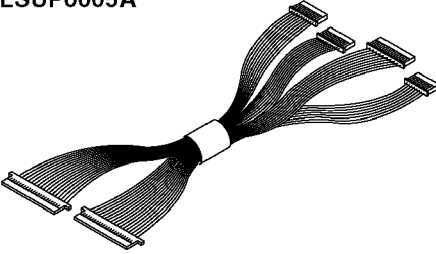
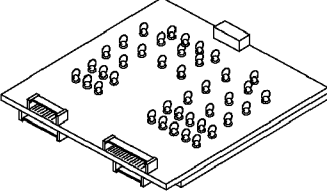
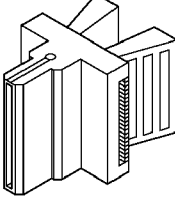


Fig. DM22

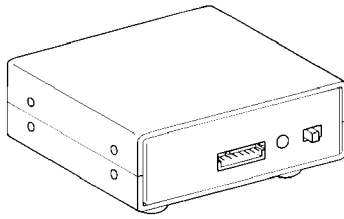
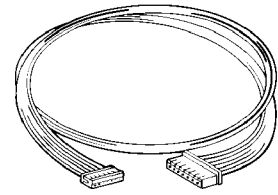
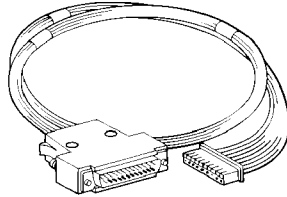
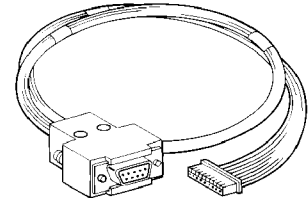
8 ADJUSTMENT PROCEDURES

8.1. SERVICE FIXTURES& TOOLS

VHS-C Alignment Tape VFMS0004H6C 	VHS-C Alignment Tape VFMW0001C 	Molytone Grease VFK1024 
Plier for Non ZIF Connector LSVQ0028 	Grease VFKS0081 	Lock Screw VHDW0125 
Head Cleaning Stick VFK27 	Extension Cable 12P VUVS0007 	Extension Cable 22P VUVS0012 
Extension Cable 28P VUVS0015 	A.W.B. Adjustment Fixture 	VFKW0066
TP Board TP Adjustment Cable 40P LSUP0005A 	TP Adjustment P.C.B. 40P VFKW0123B 	TP Clip 36P LSUP0005C 

CAAS Kit

VFKW1000

**Interface Box
VFKW1000AA****Camera Connecting Cable
VFKW1000B****25pin RS-232C Cable
VFKW1000D****9pin RS-232C Cable
VFKW1000C**

8.2. MECHANICAL ADJUSTMENT

8.2.1. CLEANING PROCEDURE FOR THE UPPER CYLINDER UNIT

1. While slowly turning the Upper Cylinder Unit counterclockwise by hand, gently rub the Video Heads with a Head Cleaning Stick (VFK27) moistened with Isopropyl Alcohol 91 %.

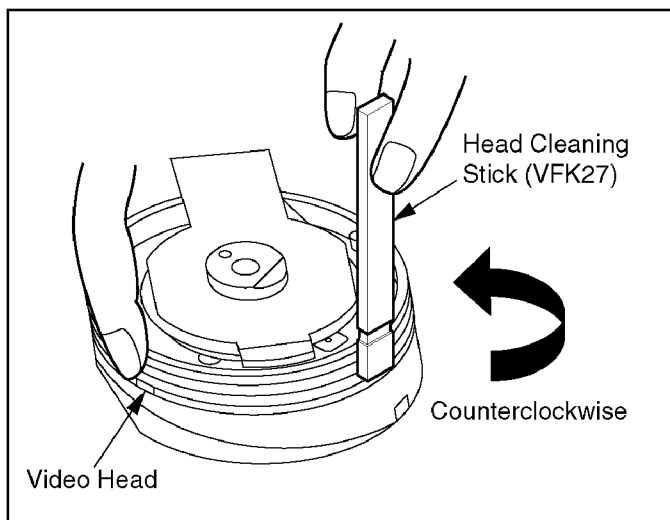


Fig. M1

Note:

- a. Do not rub vertically or apply excess pressure to the Video Heads.
Do not turn the Upper Cylinder Unit clockwise while cleaning.
- b. After cleaning, use a Dry Head Cleaning Stick (VFK27) to remove any Isopropyl Alcohol 91 % remaining on the cylinder tape path. Otherwise, tape damage will occur.

8.2.2. ADJUSTMENT PROCEDURES

8.2.2.1. TAPE INTERCHANGEABILITY ADJUSTMENT

Before perform these Adjustment/Confirmation procedures, be sure to complete following items.

1. Connect the TP Board to S301 on the camcorder. Refer to "HOW TO USE TP BOARD" in "SERVICE NOTES."

It is possible to perform S Post, T Post, and A/C Head Unit adjustment with only the Cassette Cover removed.

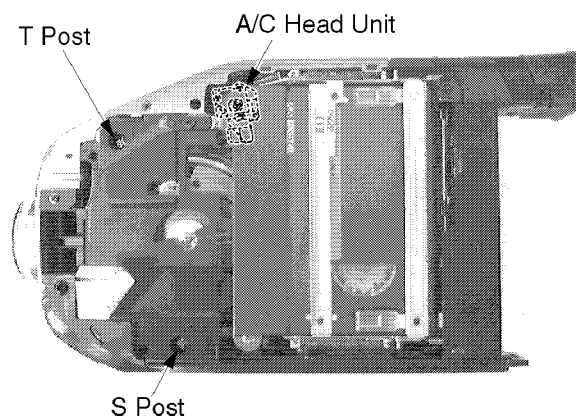


Fig. M2-1

2. Put the unit into the service mode "I. TRACKING FIX" to defeat Auto Tracking. Refer to "SERVICE MODE SPECIFICATION (SELF-DIAGNOSTIC SYSTEM)" in "SERVICE NOTES."
3. Remove the Cassette Lid Cover from the Cassette Tape or the Alignment Tape.

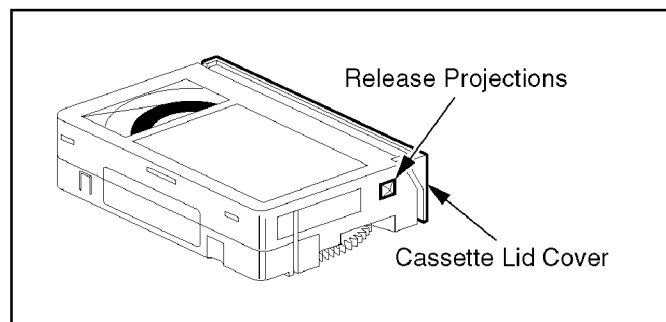


Fig. M2-2

Equipment
Required:

Dual Trace Oscilloscope
VHS-C Alignment Tape (VFMS0004H6C)
VHS-C Alignment Tape (VFMW0001C)
Screwdriver Set (Purchase Locally)
TP Board
TP Adjustment Cable 40P (LSUP0005A)
TP Adjustment P.C.B. 40P (VFKW0123B)
TP Clip 36P (LSUP0005C)

8.2.2.1.1. ENVELOPE OUTPUT ADJUSTMENT

The height of the S and T Posts replacement part is preset at the factory.

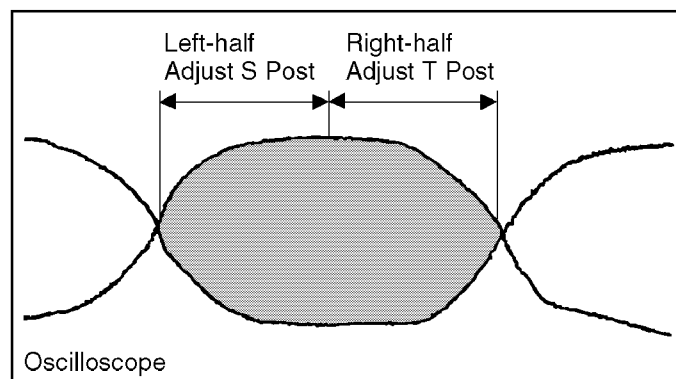
Purpose: To achieve a satisfactory picture and secure precise tracking.

Symptom of Misadjustment: If the envelope is output poorly, much noise will appear in the picture. Then the tracking will lose precision and the playback picture will be distorted by any slight variation of the tracking control circuit.

1. Put the unit into the service mode "I. Tracking Fix" to defeat Auto Tracking. Refer to "SERVICE MODE SPECIFICATION (SELF-DIAGNOSTIC SYSTEM)" in "SERVICE NOTES."
2. Connect the oscilloscope to Pin 32 (Envelope signal) on the TP Adjustment P.C.B. Use Pin 33 (Head Switch signal) as a trigger.
3. Play back the VHS-C Alignment Tape (VFMS0004H6C).
4. Confirm that the RF envelope is flat enough. If not, with Flat Headed (—) Screwdriver, adjust S and T post height so that the envelope waveform becomes as flat as possible (No envelope drop). If the envelope drop appears on the left-half of the waveform, adjust S post height. If the envelope drop appears on the right-half of the waveform, adjust T post height.

CAUTION: Do not apply excessive pressure onto the S and T Posts when adjusting S and T post height.

Before Adjustment



After Adjustment

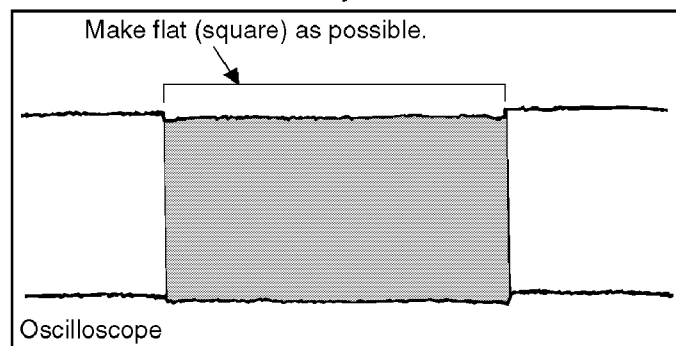


Fig. M3-1

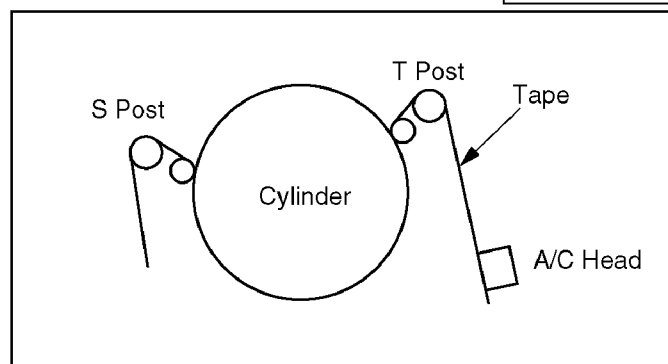


Fig. M3-2

Note:

It will be possible to confirm step 4) after performing the following steps.

- a. Exit the "I. TRACKING FIX" mode, then skip the "J. PG SHIFTER" mode to enter other modes (except these 2). Or, close the service mode.
 - b. Press the Tracking Control Up or Down button on the camcorder. Make sure that the envelope waveform remains flat. If not, readjust S and/or T post heights.
5. After adjustment, confirm that the tape travels without curing at S and T posts.

If curing is apparent, readjust the height of posts.

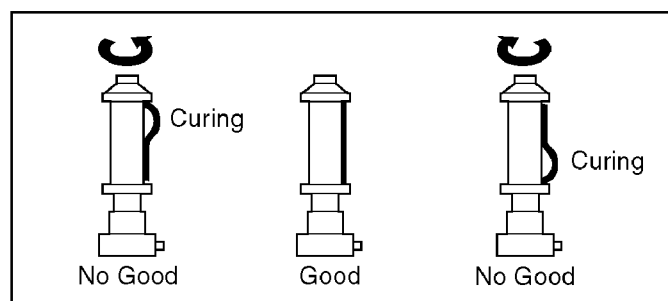


Fig. M3-3

8.2.2.1.2. A/C HEAD HEIGHT ADJUSTMENT

The height of the A/C Head replacement part is preset at the factory.

Purpose: To be sure the tape runs properly along the Control Head.

Symptom of Misadjustment: If the control signal is not properly picked up, Servo Operation can not be achieved.

1. Connect the oscilloscope to Pin 25 (PB Control signal) on the TP Adjustment P.C.B.
2. Play back the VHS-C Alignment Tape (VFMW0001C)
3. Confirm that the Sub Control Signal is $500\text{ mV} \pm 200\text{ mV}$. If not, **slightly and equally** adjust Screw A, Screw B, and Screw C on the A/C Head Unit to achieve the sub control signal level of $500\text{ mV} \pm 200\text{ mV}$.

(Sub Control Signal level will decrease when rotating screws clockwise, and increase when rotating screws counterclockwise.)

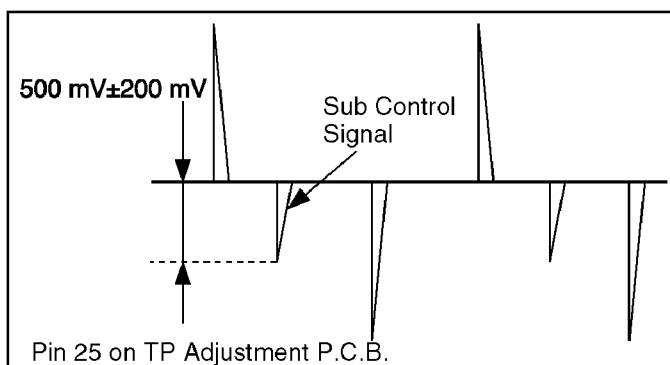


Fig. M4-1

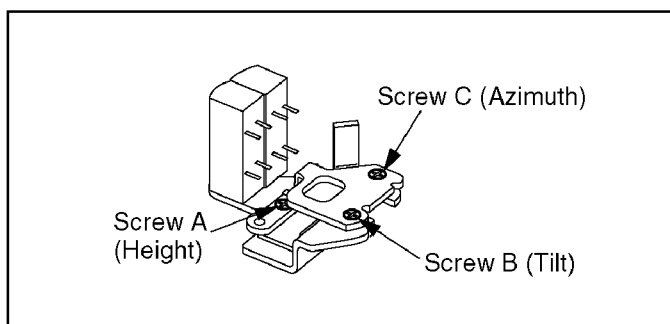


Fig. M4-2

8.2.2.1.3. A/C HEAD AZIMUTH ADJUSTMENT

Purpose: To adjust the position and height of the A/C Head so that it meets the tape tracks properly.

Symptom of Misadjustment: If the position of the A/C Head is not properly adjusted, the Audio S/N Ratio will be poor.

1. Connect the Audio/Video Cable on the camcorder.
2. Connect the oscilloscope to audio output jack.
3. Playback the VHS-C Alignment Tape (VFMS0004H6C).
4. Adjust Screw C (Azimuth) on the A/C Head Unit so that the output level is at maximum.

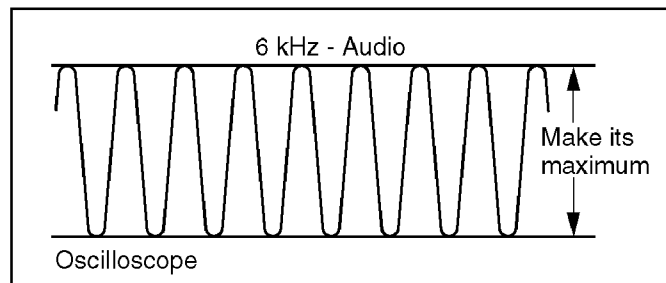


Fig. M5

5. Confirm and readjust the A/C Head height.
6. Confirm and readjust Screw C (Azimuth) on the A/C Head so that the output audio becomes is maximum.

8.2.2.1.4. A/C HEAD HORIZONTAL POSITION ADJUSTMENT

Purpose: To adjust the Horizontal Position of the A/C Head.

Symptom of Misadjustment: If the Horizontal Position of the A/C Head is not properly adjusted, maximum envelope can not be obtained at the Neutral Position of the Tracking Control Circuit.

1. Put the unit into the service mode "I. TRACKING FIX" to defeat Auto Tracking. Refer to "SERVICE MODE SPECIFICATION (SELF-DIAGNOSTIC SYSTEM)" in "SERVICE NOTES."
2. Connect the oscilloscope to Pin 32 (Envelope signal) on the TP Adjustment P.C.B. Use Pin 33 (Head Switch signal) as a trigger.
3. Play back the VHS-C Alignment Tape (VFMS0004H6C).
4. Set the Screwdriver into the Hole (A) as shown.

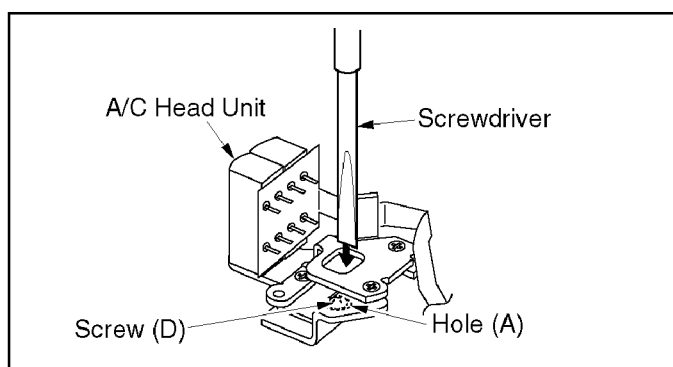


Fig. M6-1

5. Slowly move the A/C Head Unit to the direction "A" or "B" as shown so that the envelope is at maximum.

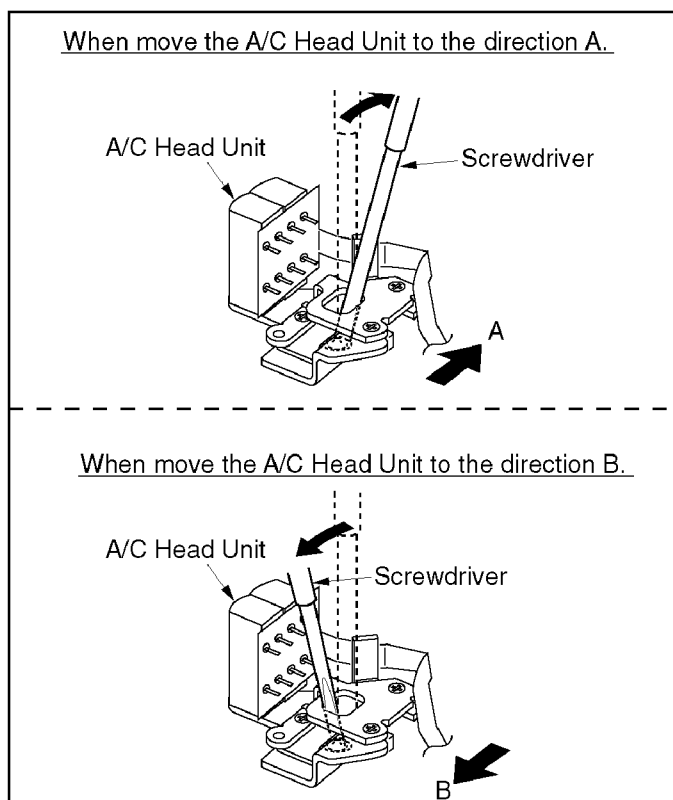


Fig. M6-2

6. To find the center of the maximum period of the envelope, move the A/C Head Unit to confirm the limits on either side of the maximum period.

Note:

It will be possible to confirm step 6) after performing the following steps.

1. Exit the "I. TRACKING FIX" mode, then skip the "J. PG SHIFTER" mode to enter other modes (except these 2). Or, close the service mode.
2. Press the Tracking Control Up Button on the camcorder several times (count the number of times pressed) until the maximum envelope is reduced to 1/2.
3. Press the Tracking Control Down Button on the camcorder several times (count the number of times pressed) until the maximum envelope is reduced to 1/2.
4. If the number of pressing is not the same, readjust A/C Head horizontal position.

8.2.2.1.5. CONFIRMATION OF ENVELOPE OUTPUT

Purpose: To achieve a satisfactory picture and secure precise tracking.

Symptom of Misadjustment: If the envelope is output poorly, much noise will appear in the picture. Then the tracking will lose precision and the playback picture will be distorted by any slight variation of the tracking control circuit.

1. Connect the oscilloscope to Pin 32 (Envelope signal) on the TP Adjustment P.C.B. Use Pin 33 (Head Switch signal) as a trigger.
2. Play back the VHS-C Alignment Tape (VFMS0004H6C).
3. Confirm that the envelope waveform is as flat as possible ($V1/V(\max) 0.7$).

If adjustment is required, adjust S Post and/or T Post with "—" Screwdriver. Refer to "ENVELOPE OUTPUT ADJUSTMENT."

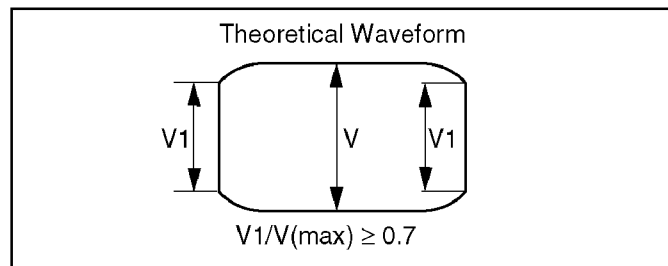


Fig. M7

8.3. ELECTRICAL ADJUSTMENT

8.3.1. INITIAL GUIDELINE

The table below shows which adjustments are necessary according to the unit parts and individual parts to be replaced. Make sure to perform these adjustments shown below as necessary.

Adjustment Item		Replacement Parts															
		MAIN C.B.A.	IC301(DIGITAL SIGNAL PROCESSOR/TIMING SIGNAL GENERATOR)	IC306(EEPROM)	IC309(HALL AMP)	IC605(SAMPLING HOLD&AGC CONTROL)	IC3001(LUMINANCE/CHROMINANCE SIGNAL PROCESS)	IC3002(TWIN CCD 1H DELAY)	X601	IC901(EVF SIGNAL PROCESS/LCD PANEL INDICATOR CONTROL)	LCD C.B.A.	IC9001(RGB SIGNAL PROCESS/LCD PANEL INDICATOR CONTROL)	IC9002(OP. AMP)	CCD C.B.A.	LENS UNIT	CYLINDER UNIT	L3031, C3157, D3006 (4.84 MHz Trap Circuit)
Camera Section	Frequency Adjustment	○	○						○								
	VCO Adjustment	○	○														
	Burst/Sync Level Adjustment	○	○														
	Hall Amp Adjustment	○	○		○												
	Auto Focus Adjustment	○	○	○											○		
	A/D Input Level Adjustment	○	○	○										○			
	Iris PWM Adjustment	○	○	○	○	○								○	○		
	YH Level Adjustment	○	○	○		○	○							○			
Auto white balance Adjustment	○	○	○										○				
VCR Section	Playback Video Level Adjustment	○		○													
	Sync Tip Frequency Adjustment	○		○													
	Deviation Adjustment	○		○													
	Rec Level Adjustment	○		○													
	Comb Filter Gain Adjustment	○		○													
	YNR Adjustment	○		○													
	Head Switching Position Adjustment	○		○												○	
	4.84 MHz Trap Adjustment	○		○													○
Color EVF Section	PLL Adjustment	○		○							○						
	Contrast (R/G/B) Adjustment	○		○							○						
	Brightness (R/G/B) Adjustment	○		○							○						
	Color Gain Adjustment	○		○							○						
	Black Limiter Adjustment	○		○							○						
	VCOM Level Adjustment	○		○							○						
Monochrome EVF Section	PLL Adjustment	○		○							○						
	Contrast (Y) Adjustment	○		○							○						
	Brightness (Y) Adjustment	○		○							○						
	Black Limiter Adjustment	○		○							○						
	VCOM Level Adjustment	○		○							○						
LCD Section	PLL Adjustment	○		○								○					
	Pedestal Level Adjustment	○		○								○					
	Contrast Adjustment	○		○								○					
	RB Sub Pedestal Adjustment	○		○								○					
	RB Sub Contrast Adjustment	○		○								○					
	Color Gain Adjustment	○		○								○					
	VCOM level Adjustment	○		○								○					
	Common bias Adjustment	○		○													

Note: ○ : Adjustment Item

8.3.2. TEST EQUIPMENT

To do all of the Electrical Adjustment, the following equipments are required.

1. Dual-Trace Oscilloscope
Voltage Range: 0.001 to 50 V/Div.
Frequency Range: DC to 50 MHz
Probes: 10:1, 1:1
2. DVM (Digital Volt Meter)
3. Frequency Counter
4. Color TV Monitor
5. VHS-C Alignment Tape (VFMS0004H6C)
6. Vectorscope
7. Plastic Tip Driver
8. Audio Video Cable (VJAW0032)
9. Power Supply for Interface Box.
10. Personal Computer
PC: IBM PC/AT or compatible
OS: Microsoft® Windows®95 - Windows®XP
CPU: 486 or higher
Drive: 3.5 inch 1.44 MB floppy disk drive
Port: D-Sub-9-pin Serial or D-Sub-25-pin Serial
Monitor: VGA Color
11. PC-EVR Adjustment Program (VF0C2003DV10)
Note:
Ask for the latest version when placing an order for the PC-EVR Adjustment Program.
12. CAAS Kit (VFKW1000)
Interface Box (VFKW1000AA)
Camera Connecting Cable (VFKW1000B)
9 Pin RS-232C Cable (VFKW1000C)
25 Pin RS-232C Cable (VFKW1000D)
13. TP Adjustment Cable 40P (LSUP0005A)
14. TP Adjustment P.C.B. 40P (VFKW0123B)
15. TP Clip 36P (LSUP0005C)

(adjustment equipment with using Infinity Lens)

16. Lighting (Light Box (VFK1164LBX1) is recommended)
17. Infinity Lens (VFK1164TCM02)
(with Focus Chart)
18. 52, 49, 46 or 43 mm Ring (VFK1164TAR53, VFK1164TAR49, VFK1164TAR46 or VFK1164TAR43)
19. Gray Scale Chart (VFK1164TFGS2)
20. Color Bar Chart (VFK1164TFGB2)
21. White Chart (VFK1164TFWC2)
22. Color Conversion Filter (VFK1164TFCT2)

(adjustment equipment without using Infinity Lens)

23. Lighting (Halogen Lamp (2000 lux))
24. Reflection Chart
Reflection Chart Set (VFKS003-N)
(Reflection Chart Set consists of Gray Scale Chart

(VFKS003A), Color Bar Chart (VFKS003B), Registration Chart (VFKS003C), and Resolution Chart (VFKS003D))
Gray Scale Chart (VFKS003A) Color Bar Chart (VFKS003B) Registration Chart (VFKS003C) Resolution Chart (VFKS003D) Color Chip Chart (VFKW0116)

25. Color Temperature Conversion Filter 80A or equivalent Color Temperature Conversion Filter
26. Color Compensating Filter CC05M
27. A.W.B. Adjustment Fixture (VFKW0066)

8.3.3. PREPARATION

1. Connect the Interface Box to the TP Board with Camera Connecting Cable (VFKW1000B).
2. Connect the Interface Box to the Personal Computer with RS-232C Cable (VFKW1000C or VFKW1000D).
3. Connect the TP Board to S301 on the camcorder. Refer to "HOW TO USE TP BOARD" in "SERVICE NOTES."
4. Connect the AC Adaptor and camcorder, and apply DC +6 V to the Interface Box.
5. Power on the camcorder.

Note:

In case that the camcorder is in DEMO mode, release DEMO mode as follows:

- a. Press MENU button for MENU mode. Then, press UP or DOWN button to select "SELF DEMO."
- b. Press M.FOCUS button to select "OFF."
- c. Press MENU to exit.

CAUTION:

- a. Do not connect or disconnect any cables while the camcorder is powered on.
- b. Before using the TP Board, be sure to clean S301 pattern with alcohol and confirm that there is no dust in the TP Clip.
- c. To achieve the best adjustment results, warm up the camcorder for approx. 30 minutes before adjustment.
- d. When removing the TP Clip from S301 on the camcorder, be sure to pinch the grips.

<Computer Assisted Adjustment System>

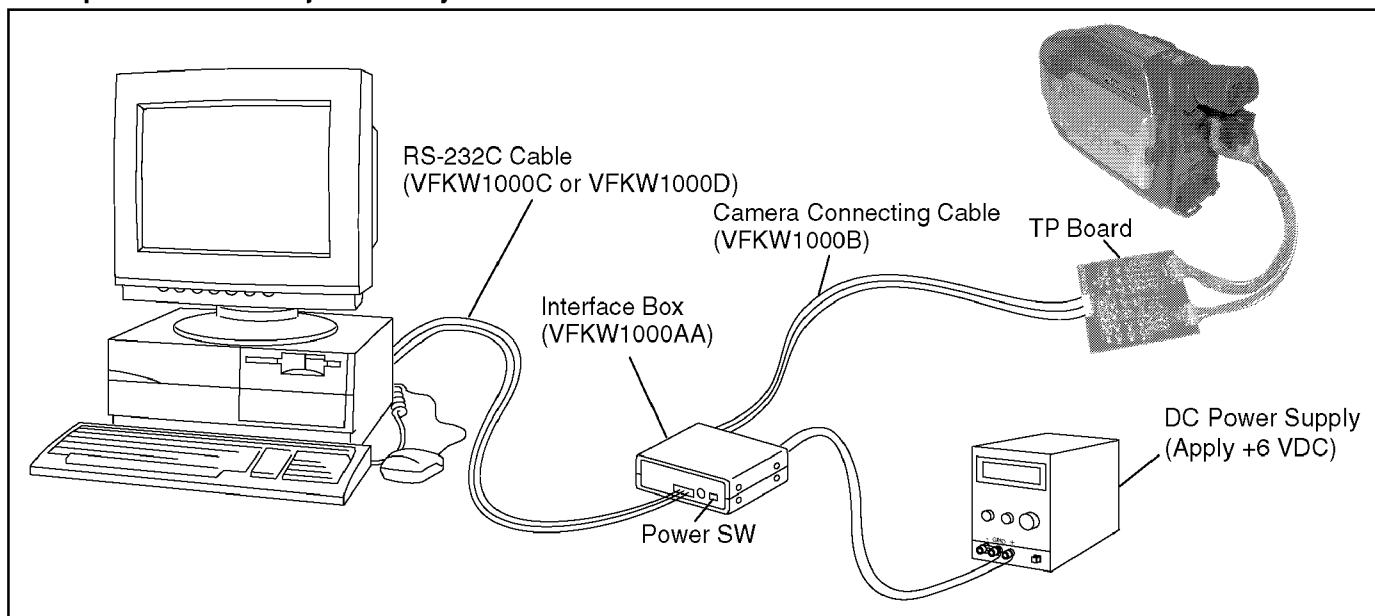
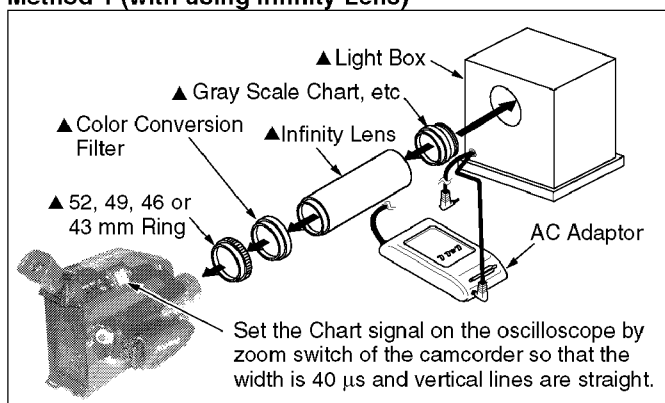


Fig. E1-1

6. Set up the camcorder for adjustment as follows:

Method 1 (with using Infinity Lens)



Method 2 (without using Infinity Lens)

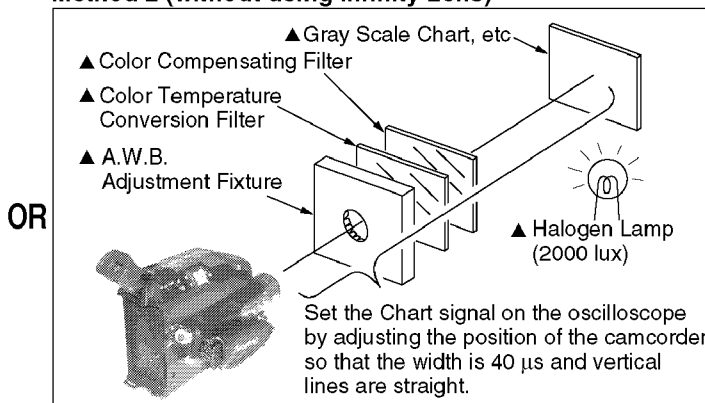


Fig. E1-2

Note: (in Method 1)

1. Connect the 52, 49, 46 or 43 mm Ring to the Infinity Lens. Then, insert it into the Light Box.
2. Set the camcorder so that the Decoration Ring of the camcorder is firmly against the 52, 49, 46 or 43 mm Ring.

When performing this operation, ensure that there is no gap between the Decoration Ring and the 52, 49, 46 or 43 mm and that no external light can enter.

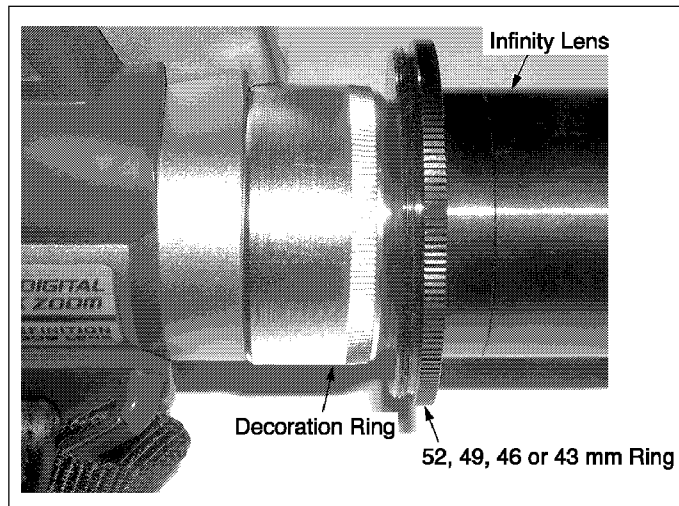


Fig. E1-3

Note 1: Auto Focus adjustment (Automatic adjustment) is available only for Method 1.

Note 2: When performing Auto Focus Adjustment (Automatic Adjustment), be sure to perform under low light conditions.
To carry out this adjustment using the Light Box, create low light conditions artificially as follows.
Set the shutter speed to 1/10,000 or 1/4,000 on the menu display and confirm that there is no flicker in the Focus Chart image at the selected shutter speed.

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8.3.4. SET UP OF PC-EVR ADJUSTMENT PROGRAM

1. Turn on the PC and install the PC-EVR Adjustment Program into the PC.
2. Execute the "kc2004.exe" file by double clicking to start up the PC-EVR Adjustment Program.

The main menu display will be displayed.

Note:

The adjusted data is stored to the EEPROM IC after each adjustment.

8.3.5. FREQUENCY ADJUSTMENT

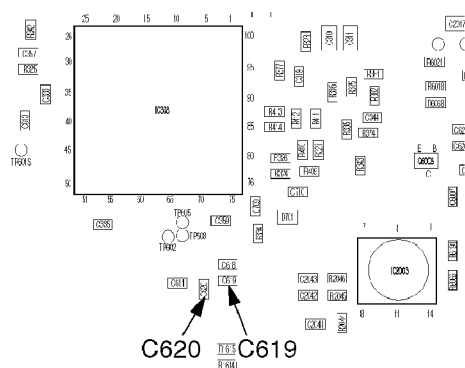
When replacing crystal oscillator (X601), confirm the Burst Frequency according to the procedure below.

8.3.5.1. CAMERA SECTION

Purpose: To set the chroma subcarrier.
 Symptom of Misadjustment: The picture will have no color. (The burst shifts)
Test Point : TP601 (Main C.B.A.)
Adjustment : C619, C620 (Main C.B.A.)
Specification : 9.53477 MHz ~ 9.53515 MHz
 Input : -----
 Mode : -----
 Equipment : Frequency counter

Adjustment Procedure:

1. Place the unit in Service Position to gain access to C619 and C620 on the Main C.B.A. (foil side).
 2. Connect the Frequency counter to TP601 on the Main C.B.A.
- a. If the frequency is under 9.53477 MHz, be sure to remove the Capacitor C619 on the Main C.B.A.
 Then, confirm the frequency is between 9.53477 MHz and 9.53515 MHz.
 - b. If the frequency is over 9.53515 MHz, install a Capacitor (a widely used capacitor: ECJ1VC1H020C) to C620 on the Main C.B.A.
 Then, confirm the frequency is between 9.53477 MHz and 9.53515 MHz.

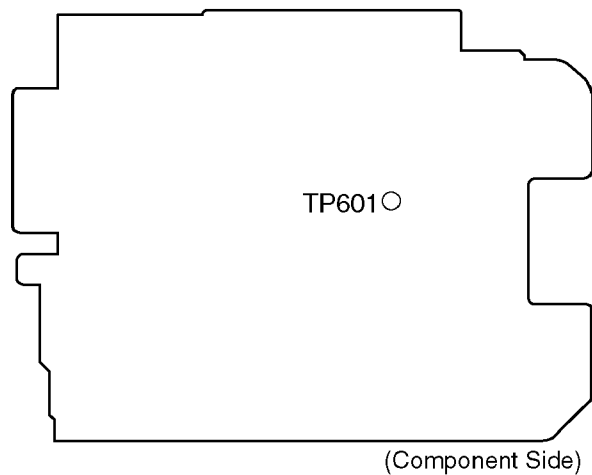


Main C.B.A. (foil side)

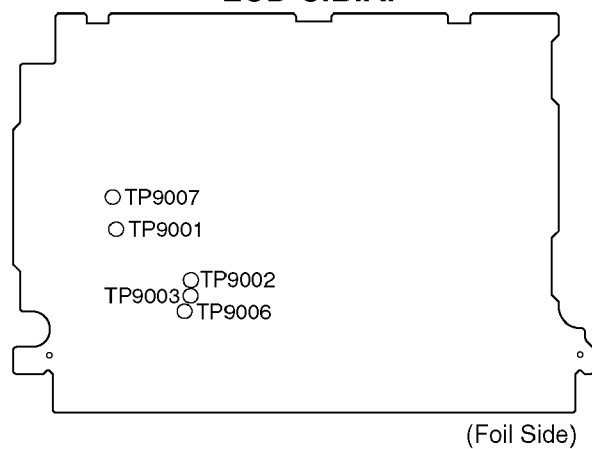
Fig. E2

8.3.6. TEST POINTS AND CONTROL LOCATION

Main C.B.A.



LCD C.B.A.



Test Point Information

○ Test Point with no Test Pin.

9 SCHEMATIC DIAGRAMS

9.1. SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES

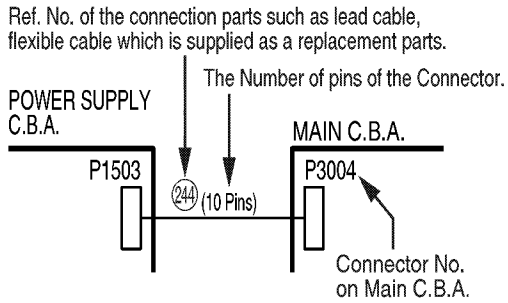
1. **Important safety notice**
Components identified by the sign  have special characteristics important for safety. When replacing any of these components. Use only the specified parts.
2. Do not use the part number shown on this drawing for ordering.
The correct part number and part value is shown in the parts list, and may be slightly different or amended since this drawing was prepared.
3. Use only original replacement parts:
To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.
4. Parts different in shape or size may be used.
However, only interchangeable parts will be supplied as service replacement parts.
5. Test point information
 : Test point with no test pin.

Schematic Diagram Notes

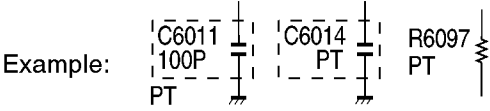
1. Indication for Zener Voltage of Zener Diodes
The Zener Voltage of Zener Diodes are indicated as such on Schematic Diagrams.

Example:
(6.2V).....Zener Voltage
2. How to identify Connectors
Each connector is labeled with a Connector No. and Pin No. Indicating what it is connected to, in other words, its counter part.
Use the interconnection schematic diagram to find the connection between associated connectors.

Example:
The connections between C.B.A.s are shown below.

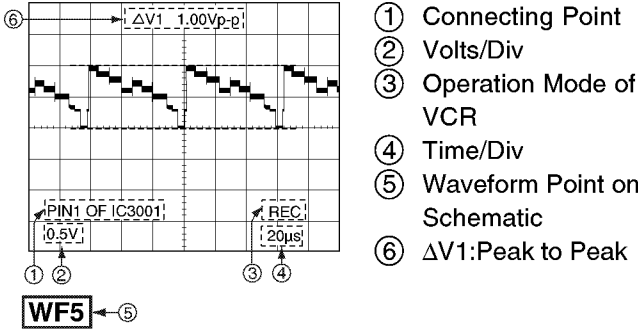


3. Parts marked "PT" are not used in any models included in this service model.



Signal Waveform Note

How to read Signal Waveform



Circuit Board Layout Note

Circuit Board Layout shows components installed for various models.
For proper parts content for the model you are servicing, please refer to the schematic diagram and parts list.

NOTE:
Circuit Board Layout includes components which are not used.

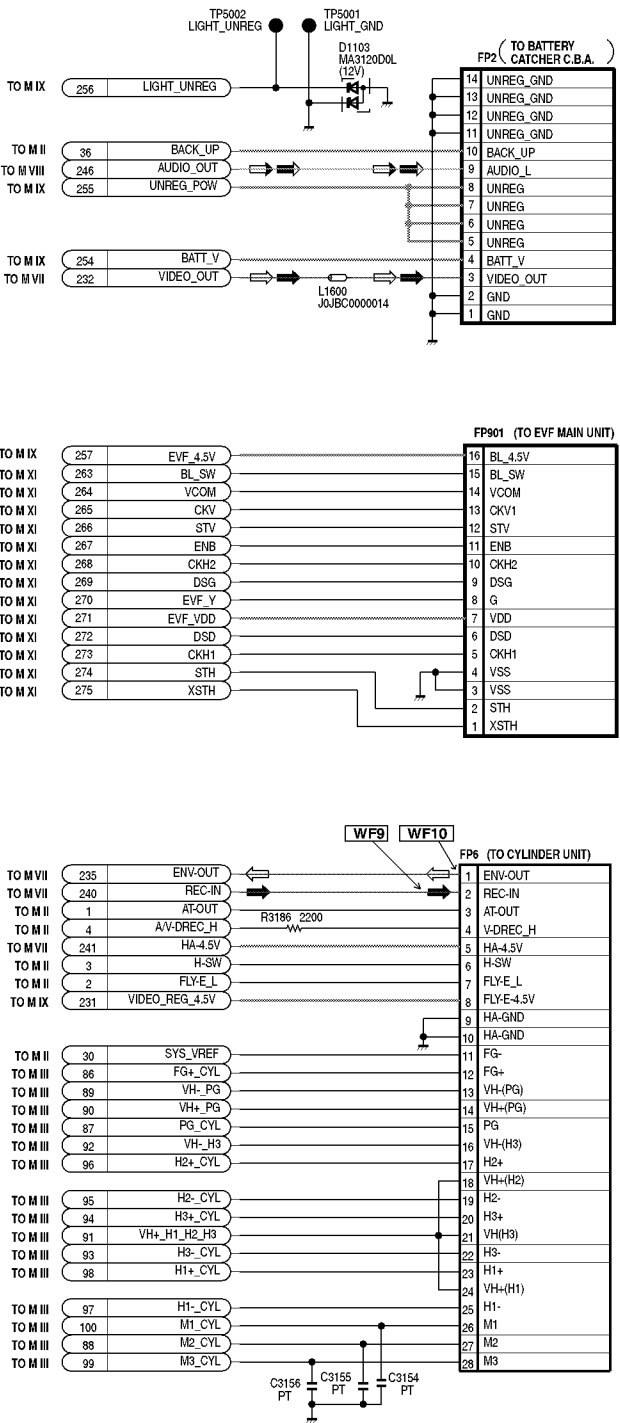
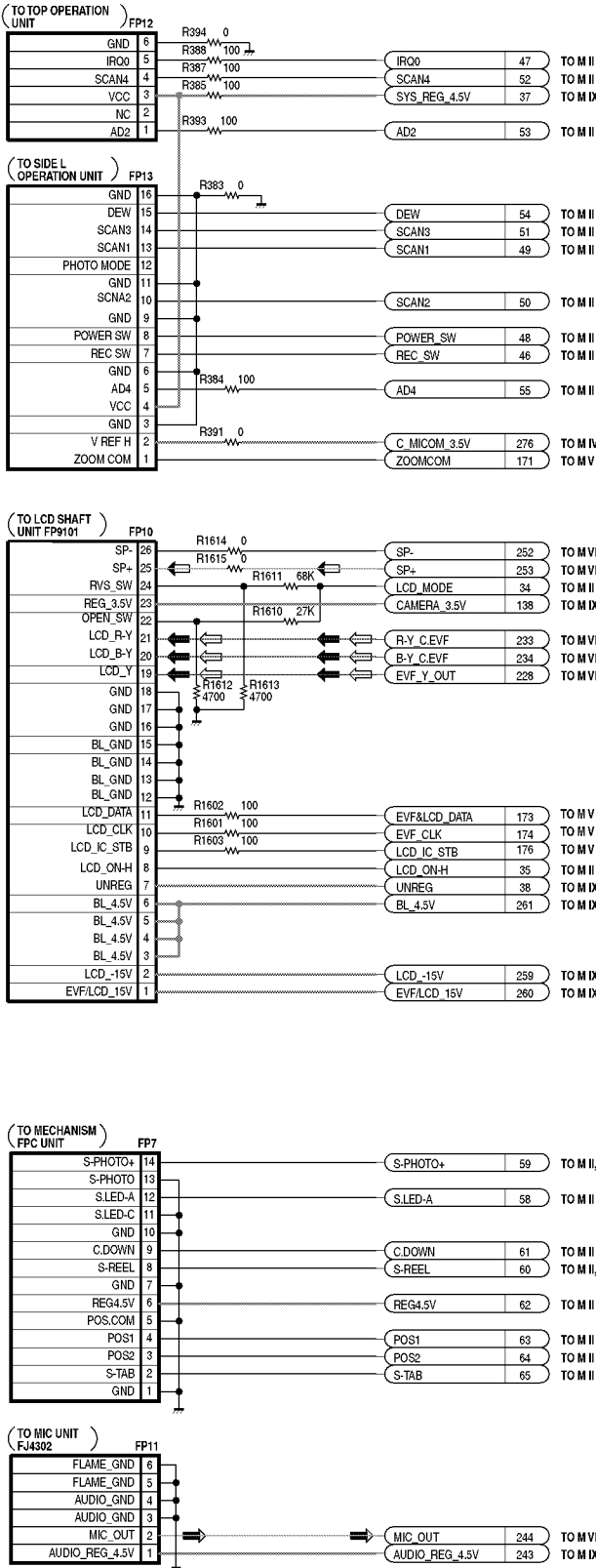
Model No. Identification Mark

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT

Note : Refer to item 3 of Schematic Diagram Notes for mark "PT".

9.2. MAIN SCHEMATIC DIAGRAMS (Models: PV-L354/PV-L354-K)

MAIN I (CONNECTOR) SCHEMATIC DIAGRAM (A,B)

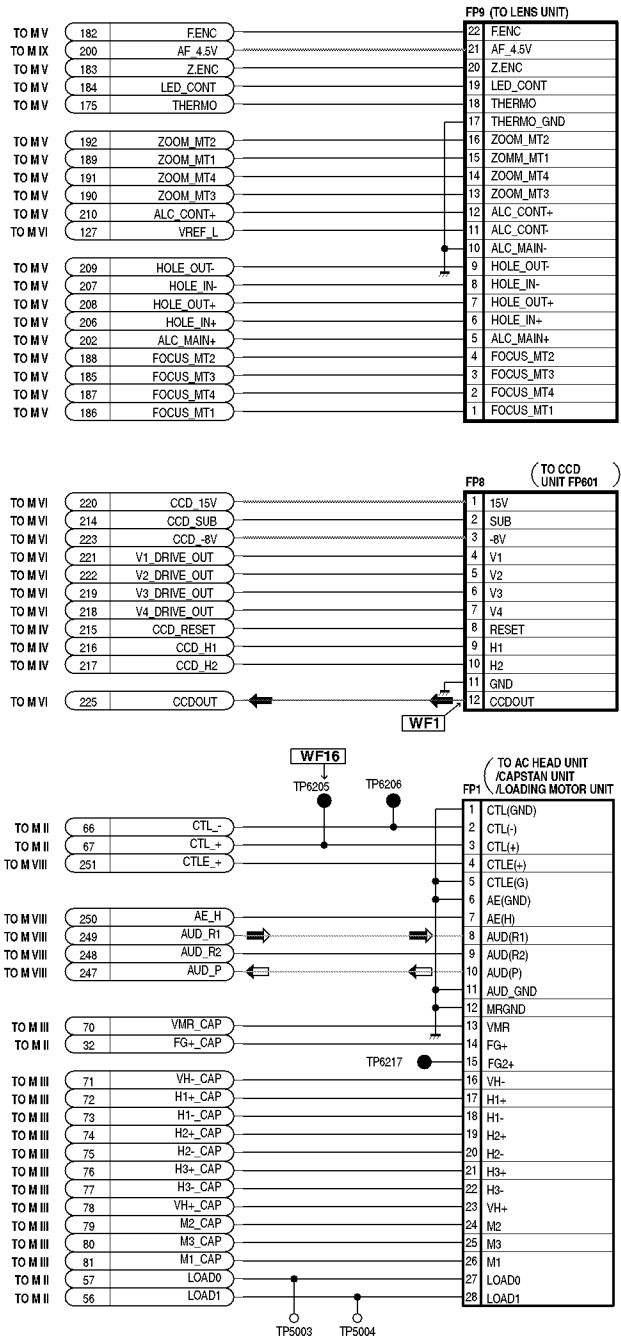


NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT

REC VIDEO SIGNAL PB VIDEO SIGNAL REC AUDIO SIGNAL PB AUDIO SIGNAL



LINK TO VOLTAGE CHART
LINK TO SIGNAL WAVEFORM

LSJB8257
MAIN I (CONNECTOR) SCHEMATIC DIAGRAM
PV-L354/PV-L354-K

NOTE
TO DEFEAT THE SAFETY FUNCTION, CONNECT A DIODE BETWEEN TP6011 AND TP6012, OR SELECT THE H.
SAFETY DEFEAT IN SERVICE MODE. REFER TO NOTE1 OF "EXTENSION CABLES FOR SERVICE" IN SERVICE
NOTES SECTION FOR MORE INFORMATION.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT

TERMINAL VOLTAGE	OPERATION BUTTON	
	KEY DATA 2 (PIN 84)	KEY DATA 4 (PIN 81)
3.42~3.78V	---	---
2.52~2.88V	FF/ SEARCH	---
1.62~1.98V	REW/ SEARCH	AUTO TRACKING
0.72~1.08V	PLAY/STILL	DOWN
0~0.18V	STOP	UP

TERMINAL VOLTAGE	OPERATION BUTTON	
	KEY DATA 2 (PIN 84)	KEY DATA 4 (PIN 81)
3.42~3.78V	LIGHT	---
2.52~2.88V	EIS	MANUAL FOCUS/SET
1.62~1.98V	FADE	MENU
0.72~1.08V	STILL/ STROBE	DOWN/NEAR
0~0.18V	BACKLIGHT	UP/FAR

TERMINAL VOLTAGE (Pin 79 of IC6001)	LCD PANEL MODE	
	NORMAL/ REVERSE	OPEN/CLOSE
0V	NORMAL	CLOSE
2.6V	NORMAL	OPEN
1.1V	REVERSE	CLOSE
3.5V	REVERSE	OPEN



I/O CHART OF IC6001

Pin No.	I/O	Signal Name	Description
1	I	POWER	POWER SW
2	I	TALLY	REC SW ON(L)
3	I	EJECT	EJECT SW
4	I	POS1	MODE SW POSITION 1
5	-	-----	(Not used)
6	O	POWER	POWER ON(H)
7	O	LOAD2	LOADING MOTOR REV(H)
8	O	LOAD1	LOADING MOTOR FWD(H)
9	I	POS2	MODE SW POSITION 2
10	I	KEY_IN1	KEY DATA 1
11	I	NSBT1	CAM SERIAL CLOCK
12	I	NSBI1	CAM SERIAL DATA 0
13	O	NSBO1	CAM SERIAL DATA 1
14	O	NSBT0	SERIAL CLOCK
15	I	NSBI0	SERIAL DATA 0
16	O	NSBO0	SERIAL DATA 1
17	O	SPK_ON_H	SPEAKER ON(H)
18	-	-----	(Not used)
19	O	CYLON	CYL ON(L)
20	O	TLIM	CAP TORQUE LIMIT
21	O	RSF	CAP DIRECTION CTL
22	O	ACC	FORCED ACCELERATION
23	O	HSW	HEAD SW
24	O	VLP	V-LOCK PULSE
25	I	NRST	RESET(L)
26	O	FLYE	FLYING ERASE ON(H)
27	O	VDREC	VIDEO DELAY REC(H)
28	O	LCD_ON-H	LCD ON(H)
29	O	ARECCT	AUDIO REC(H)/PB(L)
30	O	DTCS	IC6005 CS(H)
31	-	-----	(Not used)
32	I	CAM-CS	CAM CS(L)
33	O	PWM1	CAP SPEED ERROR
34	O	PWM0	CYL SPEED ERROR
35	-	PWM4	(Not used)
36	I	VDD	VDD (+4.5V)
37	O	OSCO	OSC 1
38	I	OSCI	OSC 2
39	-	VSS	Ground
40	I	XI	CLOCK(32KHz)
41	-	XO	(Not used)
42	I	SXI	SXI
43	I	PHOTO	(Not used)
44	O	RSTOUT	AUDIO RESET(L)
45	O	EEPROM_CS	IC6008 CS(H)
46	O	RSTMN67324	IC301 RESET
47	O	CLOCK+B	CLOCK +B
48	-	VSS	Ground
49	-	-----	(Not used)
50	I	CVIN	VIDEO
51	I	VDD2	VDD (+4.5V)
52	O	AFCC	AFC
53	I	AFCLPF	AFC
54	O	LCD_BL_CONT	LCD BACKLIGHT CONTROL

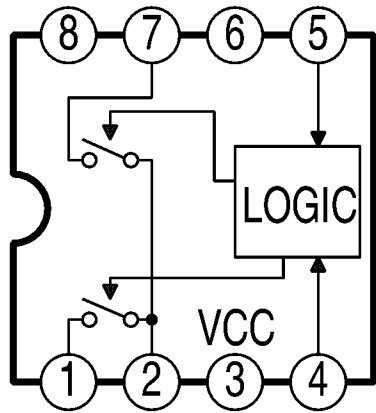
Pin No.	I/O	Signal Name	Description																	
55	O	LIGHT	LIGHT ON(H)																	
56	O	AMUTE	AUDIO MUTE(H)																	
57	O	VCS	D/A LOAD																	
58	O	VOB2	OSD BLANKING DATA																	
59	O	VOB1	OSD BLANKING DATA																	
60	O	VOW4	OSD DATA																	
61	O	VOW3	OSD (DATE/TIME) DATA																	
62	-	-----	(Not used)																	
63	-	-----	(Not used)																	
64	I	CDOWN	CASSETTE DOWN(L)																	
65	I	YFG	CYL FG																	
66	I	YPG	CYL PG																	
67	O	FGF	CAP FG																	
68	I	AFG	CAP PG																	
69	O	VRO	V-REF																	
70	I	VRI	V-REF																	
71	-	AVSS	Ground																	
72	I	CTLA	CTL AMP																	
73	I	AVDD	VDD (+4.5V)																	
74	I/O	RCTLP	CTL PULSE(+)																	
75	I/O	RCTLN	CTL PULSE(-)																	
76	O	CO	PB CONTROL PULSE																	
77	I	STAB	SAFETY TAB BROKEN(H)																	
78	I	LIGHT_SCP	LIGHT SHORT CIRCUIT PROTECT																	
79	I	LCDMOD	LCD PANEL MODE																	
			<table><tr><th rowspan="2">TERMINAL VOLTAGE</th><th colspan="2">LCD PANEL MODE</th></tr><tr><th>NORMAL/ REVERSE</th><th>OPEN/ CLOSE</th></tr><tr><td>0V</td><td>NORMAL</td><td>CLOSE</td></tr><tr><td>2.6V</td><td>NORMAL</td><td>OPEN</td></tr><tr><td>1.1V</td><td>REVERSE</td><td>CLOSE</td></tr><tr><td>3.5V</td><td>REVERSE</td><td>OPEN</td></tr></table>	TERMINAL VOLTAGE	LCD PANEL MODE		NORMAL/ REVERSE	OPEN/ CLOSE	0V	NORMAL	CLOSE	2.6V	NORMAL	OPEN	1.1V	REVERSE	CLOSE	3.5V	REVERSE	OPEN
TERMINAL VOLTAGE	LCD PANEL MODE																			
	NORMAL/ REVERSE	OPEN/ CLOSE																		
0V	NORMAL	CLOSE																		
2.6V	NORMAL	OPEN																		
1.1V	REVERSE	CLOSE																		
3.5V	REVERSE	OPEN																		
80	I	SREEL	SUPPLY REEL PULSE																	
81	I	KEYAD4	KEY DATA 4																	
82	I	KEYAD3	(Not used)																	
83	I	BATT/EXT	BATTERY/EXT VOLTAGE DETECT																	
84	I	KEYAD2	KEY DATA 2																	
85	I	BATT	BATTERY UNDERCUT																	
86	I	SPHOTO	SUPPLY PHOTO TR(L)																	
87	-	-----	(Not used)																	
88	I	DEW	DEW SENSOR																	
89	I	ENV	ENV-VOLTAGE																	
90	I	TREEL	TAKE UP REEL PULSE																	
91	O	SLED	SENSOR LED ON(H)																	
92	O	DEW+B	DEW +B																	
93	-	-----	(Not used)																	
94	O	KEYSCAN4	SCAN 4																	
95	O	KEYSCAN3	SCAN 3																	
96	O	KEYSCAN2	SCAN 2																	
97	O	KEYSCAN1	SCAN 1																	
98	O	ROTA	ROTARY SW																	
99	-	HAMP	(Not used)																	
100	-	DENV	(Not used)																	

I/O CHART OF IC6005

Pin No.	I/O	Signal Name	Description
1	O	TP0	Clock (32KHz)
2	I	XIN	X In
3	O	XOUT	X Out
4	-	GND	Ground
5	I	CS	CS (H)
6	I	SCK	Serial Clock
7	I/O	SIO	Serial Data1
8	I	VDD	VDD (+3.5V)

IC6007 LOADING MOTOR DRIVE

IC- DETAIL BLOCK DIAGRAM

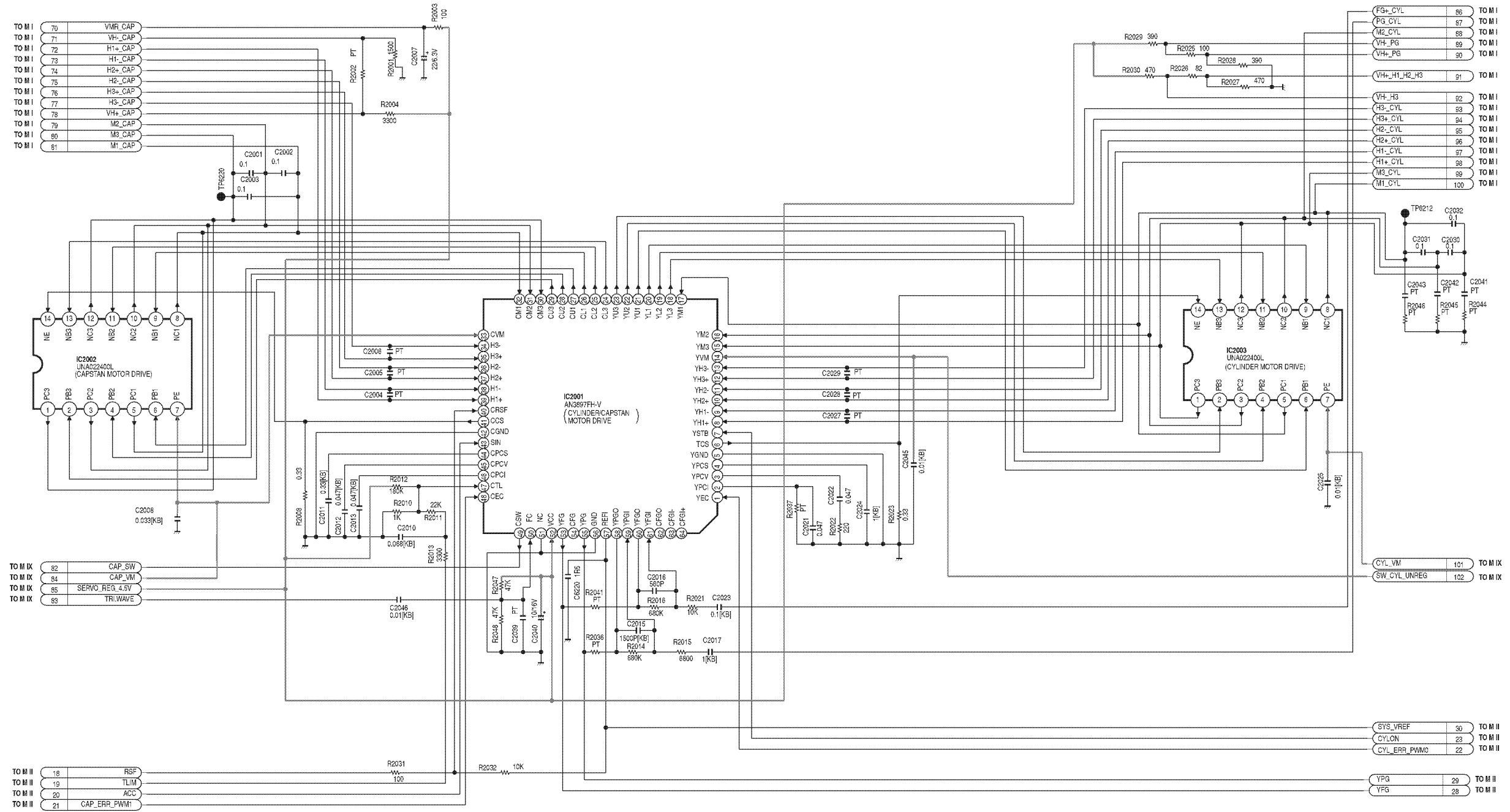


MAIN III (CYLINDER/ CAPSTAN DRIVE) SCHEMATIC DIAGRAM (A,B)

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

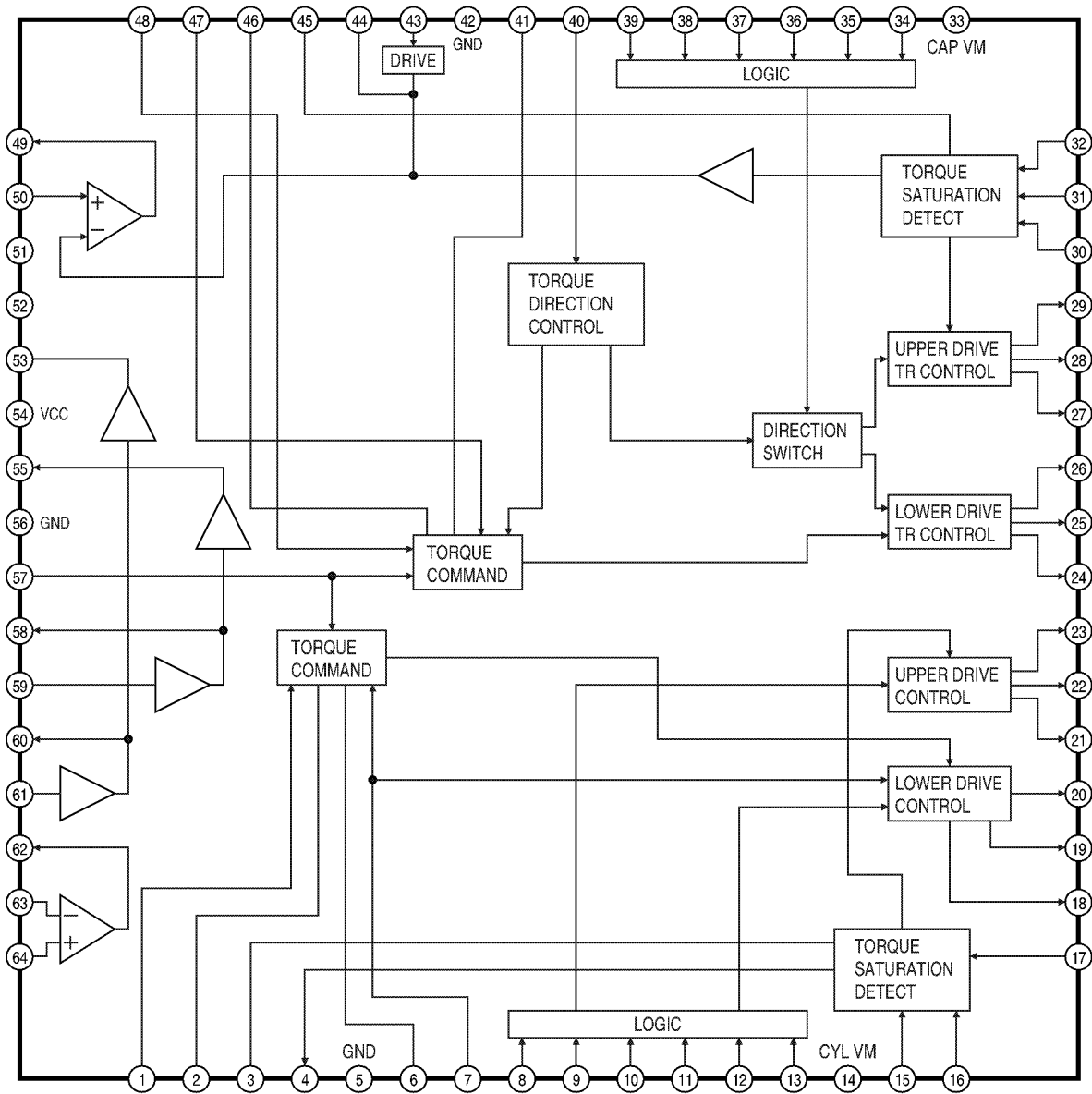
COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT



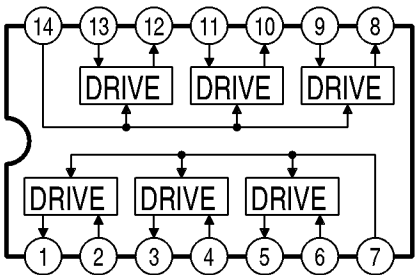
LINK TO VOLTAGE CHART

LSJB8257
MAIN III (CYLINDER/CAPSTAN DRIVE) SCHEMATIC DIAGRAM
PV-L354/PV-L354-K

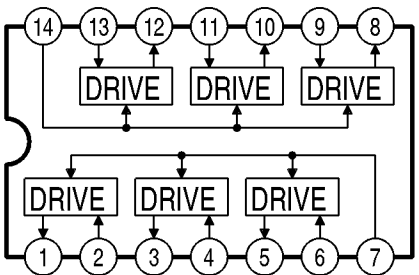
IC2001 CYL/CAP MOTOR DRIVE CONTROL IC- DETAIL BLOCK DIAGRAM



IC2002 CAP MOTOR DRIVE IC- DETAIL BLOCK DIAGRAM



IC2003 CYL MOTOR DRIVE IC- DETAIL BLOCK DIAGRAM



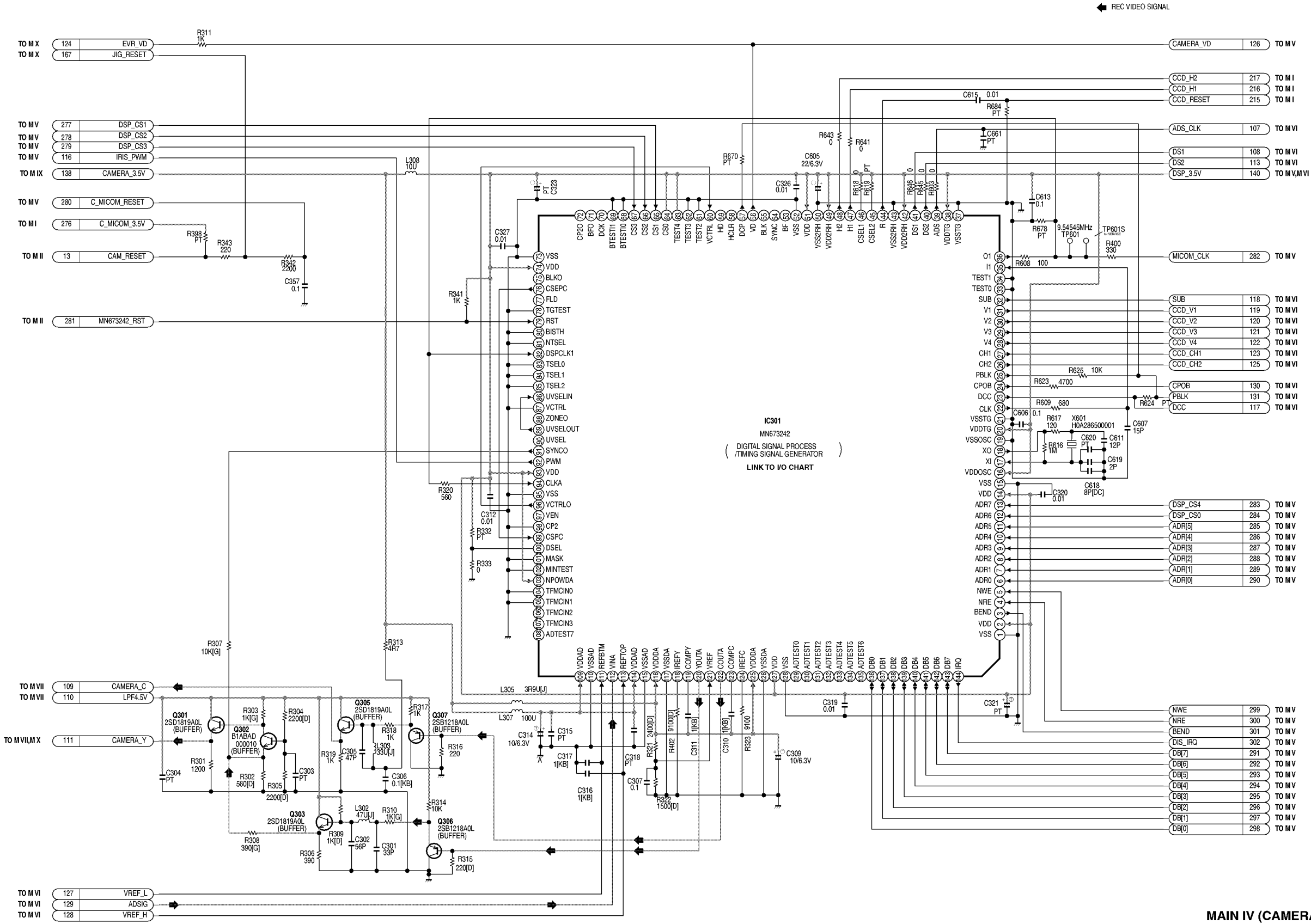
MAIN IV (CAMERA I) SCHEMATIC DIAGRAM (A,B)

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT



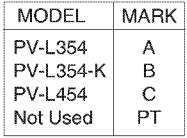
LINK TO VOLTAGE CHART

LSJB8257
MAIN IV (CAMERA I) SCHEMATIC DIAGRAM
PV-L354/PV-L354-K

I/O CHART OF IC301

Pin No.	I/O	Signal Name	Description
1	-	VSS	Ground
2	I	VDD	VDD (+3.5V)
3	O	BEND	BLOCK END CONTROL
4	I	NRE	READ ENABLE
5	I	NWE	WRITE ENABLE
6	I	ADR0	ADDRESS 0
7	I	ADR1	ADDRESS 1
8	I	ADR2	ADDRESS 2
9	I	ADR3	ADDRESS 3
10	I	ADR4	ADDRESS 4
11	I	ADR5	ADDRESS 5
12	I	ADR6	DSP CHIP SELECT 0
13	I	ADR7	DSP CHIP SELECT 4
14	I	VDD	VDD (+3.5V)
15	-	VSS	Ground
16	I	VDDOSC	VDD (+3.5V)
17	I	XI	28.6MHz OSC
18	O	XO	28.6MHz OSC
19	-	VSSOSC	Ground
20	I	VDDTG	VDD (+3.5V)
21	-	VSTG	Ground
22	O	CLK	CLOCK
23	O	DCC	CLAMP PULSE
24	O	CPOB	OB CLAMP PULSE
25	O	PBLK	PRE BLANKING PULSE
26	O	CH2	V3 CHARGE PULSE
27	O	CH1	V1 CHARGE PULSE
28	O	V4	V4 PULSE
29	O	V3	V3 PULSE
30	O	V2	V2 PULSE
31	O	V1	V1 PULSE
32	O	SUB	SUB CONTROL PULSE
33	-	TEST0	(Not used)
34	-	TEST1	(Not used)
35	I	I1	CLOCK
36	O	O1	CLOCK
37	-	VSTG	Ground
38	I	VDDTG	VDD (+3.5V)
39	O	ADS	ANALOG SAMPLING PULSE
40	O	DS2	DOUBLE SAMPLING PULSE 2
41	O	DS1	DOUBLE SAMPLING PULSE 1
42	I	VDD2RH	VDD (+3.5V)
43	-	VSS2RH	Ground
44	O	R	RESET PULSE
45	-	CSEL2	(Not used)
46	-	CSEL1	(Not used)
47	O	H1	H1 PULSE
48	O	H2	H2 PULSE
49	I	VDD2RH	VDD (+3.5V)
50	-	VSS2RH	Ground
51	I	VDD	VDD (+3.5V)
52	-	VSS	Ground
53	-	BF	(Not used)
54	-	SYNC	(Not used)
55	-	BLK	(Not used)
56	O	VD	V SYNC
57	O	DCP	CLAMP PULSE
58	-	HCLR	(Not used)
59	-	HD	(Not used)
60	I	VCTRL	V CONTROL
61	-	TEST2	(Not used)
62	-	TEST3	(Not used)
63	-	TEST4	(Not used)
64	I	CS0	(Not used)
65	I	CS1	DSP CHIP SELECT 1
66	I	CS2	DSP CHIP SELECT 2
67	I	CS3	DSP CHIP SELECT 3
68	-	BTEST10	(Not used)
69	-	BTEST11	(Not used)
70	-	DCK	(Not used)
71	-	BFO	(Not used)
72	-	CP20	(Not used)

Pin No.	I/O	Signal Name	Description
73	-	VSS	Ground
74	I	VDD	VDD (+3.5V)
75	-	BLK0	(Not used)
76	O	CSEPC	COLOR SEPARATION CONTROL
77	-	FLD	(Not used)
78	-	TGTEST	(Not used)
79	I	RST	RESET
80	-	BISTH	(Not used)
81	-	NTSEL	(Not used)
82	I	DSPCLK1	CLOCK
83	-	TSEL0	(Not used)
84	-	TSEL1	(Not used)
85	-	TSEL2	(Not used)
86	I	UVSELIN	R-Y(L)/B-Y(H)
87	-	VCTRL	(Not used)
88	-	ZONE0	(Not used)
89	O	UVSELOUT	R-Y(L)/B-Y(H)
90	-	UVSEL	(Not used)
91	O	SYNCO	V/H SYNC
92	O	PWM	IRIS PWM CONTROL
93	I	VDD	VDD (+3.5V)
94	I	CLKA	CLOCK
95	-	VSS	Ground
96	O	VCTRL0	V CONTROL
97	-	VEN	(Not used)
98	-	CP2	(Not used)
99	I	CSPC	COLOR SEPARATION CONTROL
100	-	DSEL	(Not used)
101	-	MASK	(Not used)
102	-	MINTEST	(Not used)
103	I	NPOWDA	(Not used)
104	-	TFMCIN1	(Not used)
105	-	TFMCIN2	(Not used)
106	-	TFMCIN3	(Not used)
107	-	FD0	(Not used)
108	-	ADTEST7	(Not used)
109	I	VDDAD	VDD (+3.5V)
110	-	VSSAD	Ground
111	I	REFBTM	V-REF(L)
112	I	VINA	A/D SIGNAL
113	I	REFTOP	V-REF(H)
114	I	VDDAD	VDD (+3.5V)
115	-	VSSAD	Ground
116	I	VDDDA	VDD (+3.5V)
117	-	VSSDA	Ground
118	-	IREFY	LUMINANCE D/A I-REF
119	-	COMPY	LUMINANCE D/A CONTROL
120	O	YOUTA	LUMINANCE
121	I	VREF	V-REF
122	O	COUTA	CHROMINANCE
123	-	COMPX	CHROMINANCE D/A CONTROL
124	-	IREFX	CHROMINANCE D/A I-REF
125	I	VDDDA	VDD (+3.5V)
126	-	VSSDA	Ground
127	I	VDD	VDD (+3.5V)
128	-	VSS	Ground
129	-	ADTEST0	(Not used)
130	-	ADTEST1	(Not used)
131	-	ADTEST2	(Not used)
132	-	ADTEST3	(Not used)
133	-	ADTEST4	(Not used)
134	-	ADTEST5	(Not used)
135	-	ADTEST6	(Not used)
136	I/O	DB0	DATA 0
137	I/O	DB1	DATA 1
138	I/O	DB2	DATA 2
139	I/O	DB3	DATA 3
140	I/O	DB4	DATA 4
141	I/O	DB5	DATA 5
142	I/O	DB6	DATA 6
143	I/O	DB7	DATA 7
144	O	IRQ	DIS INTERRUPT REQUEST



LSJB8257
MAIN V (CAMERA II/LENS DRIVE) SCHEMATIC DIAGRAM
PV-L354/PV-L354-K

I/O CHART OF IC308

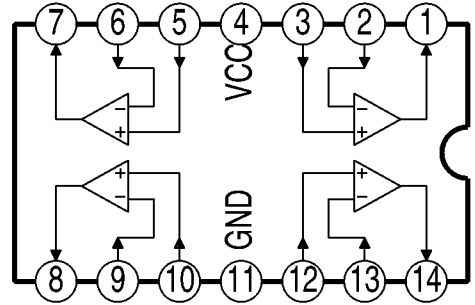
Pin No.	I/O	Signal Name	Description
1	O	CAM->VCR	CAM SERIAL DATA 0
2	I	VCR SLK	CAM SERIAL CLOCK
3	O	DAC LD	DAC LOAD
4	O	DAC SO	DAC SERIAL DATA
5	O	DAC SCK	DAC SERIAL CLOCK
6	I	VDD	VDD (+3.5V)
7	-	VSS	Ground
8	O	CAM CS	CAM CS(L)
9	-	NC	(Not used)
10	O	ADRS0	ADDRESS 0
11	O	ADRS1	ADDRESS 1
12	O	ADRS2	ADDRESS 2
13	O	ADRS3	ADDRESS 3
14	O	ADRS4	ADDRESS 4
15	O	ADRS5	ADDRESS 5
16	-	NC	(Not used)
17	-	NC	(Not used)
18	-	VSS/VPP	Ground
19	I/O	DATA0	DATA 0
20	I/O	DATA1	DATA 1
21	I/O	DATA2	DATA 2
22	I/O	DATA3	DATA 3
23	I/O	DATA4	DATA 4
24	I/O	DATA5	DATA 5
25	I/O	DATA6	DATA 6
26	I/O	DATA7	DATA 7
27	O	CS0	CHIP SELECT 0
28	O	CS1	CHIP SELECT 1
29	O	CS2	CHIP SELECT 2
30	O	CS3	CHIP SELECT 3
31	I	RESET	RESET(L)
32	-	XT1	(Not used)
33	-	NC	(Not used)
34	I	VDD	VDD (+3.5V)
35	-	X2	(Not used)
36	I	X1	14.3 MHz CLOCK
37	-	VSS	Ground
38	-	CLKOUT	(Not used)
39	O	CS4	CHIP SELECT 4
40	O	EE CS	EEPROM CS(L)
41	O	EVF CS	EVF LOAD
42	O	LCD CS	LCD LOAD
43	-	NC	(Not used)
44	-	NC	(Not used)
45	O	RE	READ ENABLE
46	O	WE	WRITE ENABLE
47	O	ZDC0	ZOOM MOTOR DRIVE CONTROL 0
48	O	ZDC1	ZOOM MOTOR DRIVE CONTROL 1
49	O	ZDC2	ZOOM MOTOR DRIVE CONTROL 2
50	O	ZD0	ZOOM MOTOR DRIVE 0

Pin No.	I/O	Signal Name	Description
51	O	ZD1	ZOOM MOTOR DRIVE 1
52	O	ZD2	ZOOM MOTOR DRIVE 2
53	O	ZD3	ZOOM MOTOR DRIVE 3
54	-	NC	(Not used)
55	I	VDD	VDD (+3.5V)
56	-	VSS	Ground
57	O	FDC0	FOCUS MOTOR DRIVE CONTROL 0
58	O	FDC1	FOCUS MOTOR DRIVE CONTROL 1
59	O	FDC2	FOCUS MOTOR DRIVE CONTROL 2
60	O	FD0	FOCUS MOTOR DRIVE 0
61	O	FD1	FOCUS MOTOR DRIVE 1
62	O	FD2	FOCUS MOTOR DRIVE 2
63	O	FD3	FOCUS MOTOR DRIVE 3
64	-	NC	(Not used)
65	-	TEST CLK	(Not used)
66	-	TEST DATA	(Not used)
67	-	TEST	(Not used)
68	O	LED CNT	LED CONTROL
69	I	Z ENC	ZOOM ENCODER
70	I	F ENC	FOCUS ENCODER
71	I	AVDD	VDD (+3.5V)
72	-	AVSS	Ground
73	I	AVREF	V-REF
74	I	ZOOM AD	ZOOM SWITCH DET
75	I	F NO	F NUMBER SIGNAL
76	I	THERMO	THERMO (LENS TEMPERATURE DET.)
77	-	LCD BRIGHT	(Not used)
78	-	AD4	(Not used)
79	-	AD5	(Not used)
80	-	AD6	(Not used)
81	-	AD7	(Not used)
82	-	----	(Not used)
83	-	----	(Not used)
84	-	----	(Not used)
85	-	----	(Not used)
86	-	NC	(Not used)
87	I	VD	V-SYNC
88	I	DIS IRQ	DIS IRQ
89	I	BEVD	BLOCK END CONTROL
90	-	NC	(Not used)
91	-	NC	(Not used)
92	-	NC	(Not used)
93	I	EVR MODE	EVR MODE
94	I	EVR->CAM	EVR SERIAL DATA 1
95	O	CAM->EVR	EVR SERIAL DATA 0
96	I	EVR CLK	EVR SERIAL CLOCK
97	I	EE SI	SERIAL DATA 1
98	O	EE/EVF S0	SERIAL DATA 0
99	O	EE/EVF SCK	SERIAL CLOCK
100	I	VCR->CAM	CAM SERIAL DATA 1

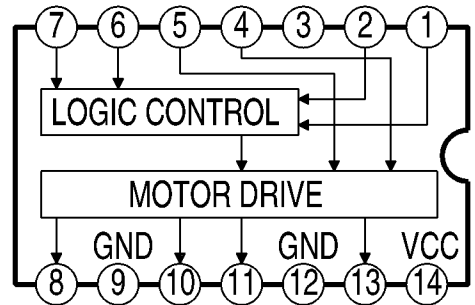
I/O CHART OF IC306

Pin No.	I/O	Signal Name	Description
1	-	R/B	(Not Used)
2	I	VCC	VDD (+3.5V)
3	I	CS	EEPROM CS(L)
4	I	SK	Serial Clock
5	I	DI	Serial Data 0
6	O	DO	Serial Data 1
7	-	GND	Ground
8	I	RES	Reset (L)

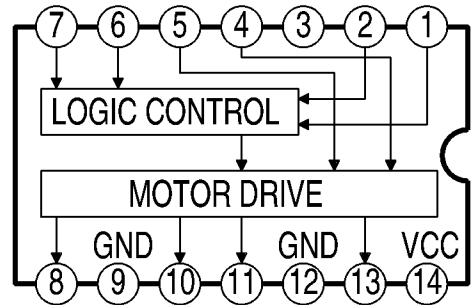
IC309 HALL/IRIS AMP
IC- DETAIL BLOCK DIAGRAM



IC701 FOCUS MOTOR DRIVE
IC- DETAIL BLOCK DIAGRAM



IC702 ZOOM MOTOR DRIVE
IC- DETAIL BLOCK DIAGRAM



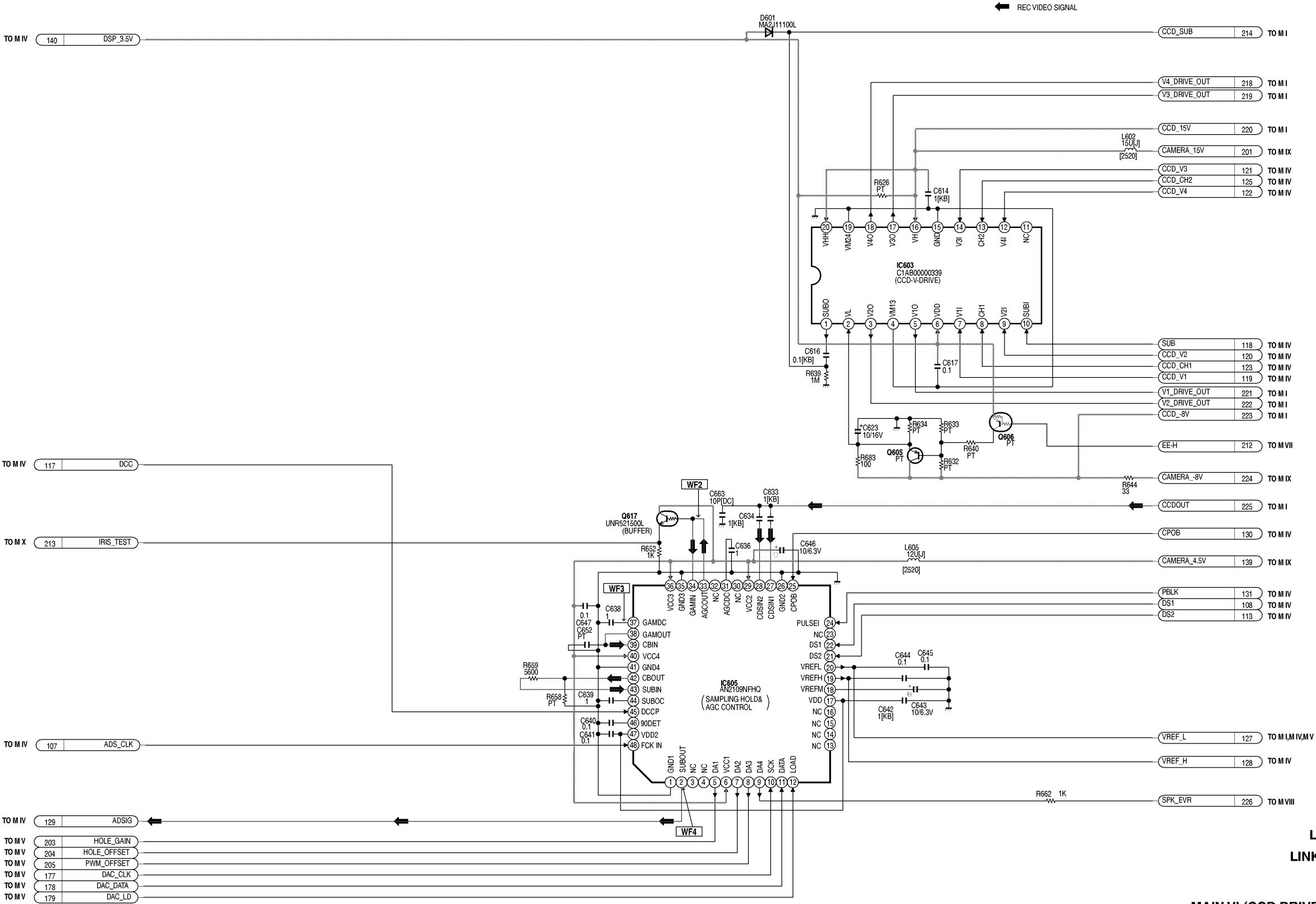
I/O CHART OF IC308
I/O CHART OF IC306
IC309 DETAIL BLOCK DIAGRAM
/IC701 DETAIL BLOCK DIAGRAM
/IC702 DETAIL BLOCK DIAGRAM
PV-L354/PV-L354-K

MAIN VI (CCD DRIVE) SCHEMATIC DIAGRAM (A,B)

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT



[LINK TO VOLTAGE CHART](#)

[LINK TO SIGNAL WAVEFORM](#)

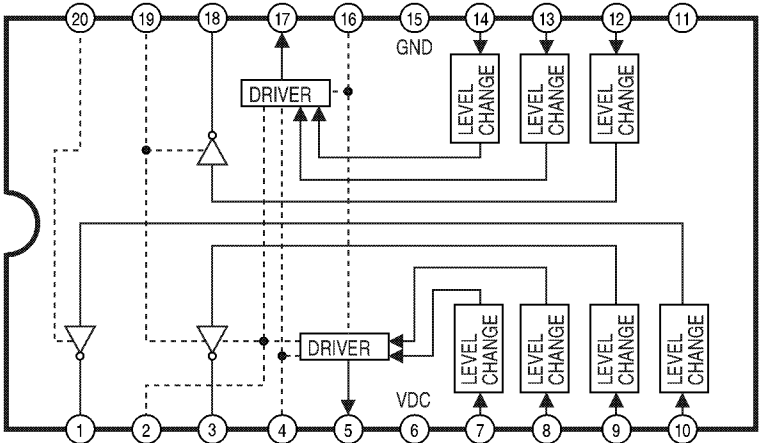
LSJB8257

MAIN VI (CCD DRIVE) SCHEMATIC DIAGRAM

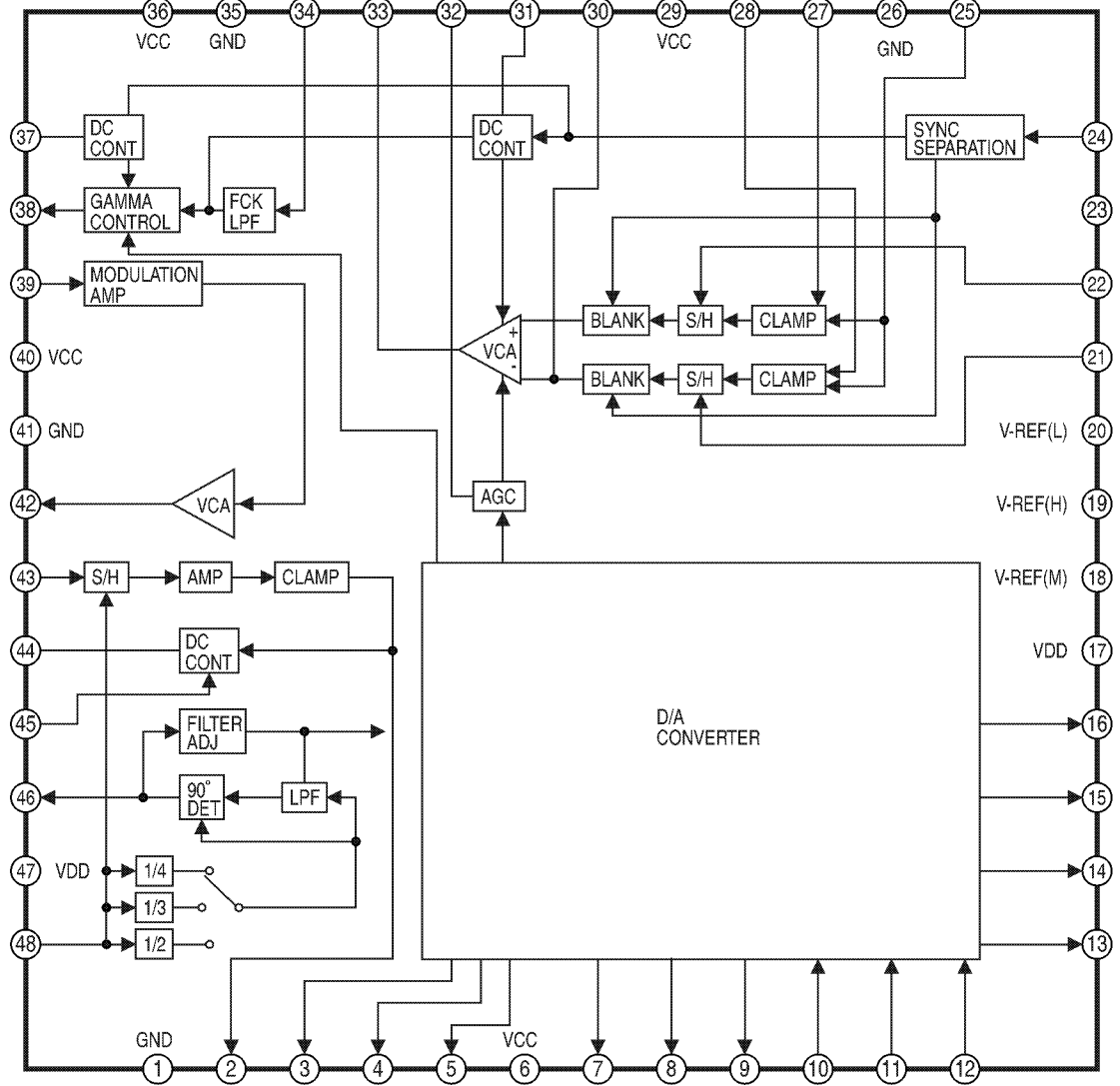
PV-L354/PV-L354-K

IC603 CCD V DRIVE

IC- DETAIL BLOCK DIAGRAM



IC605 SAMPLING HOLD / AGC CONTROL IC- DETAIL BLOCK DIAGRAM



IC603 DETAIL BLOCK DIAGRAM
/IC605 DETAIL BLOCK DIAGRAM
PV-L354/PV-L354-K

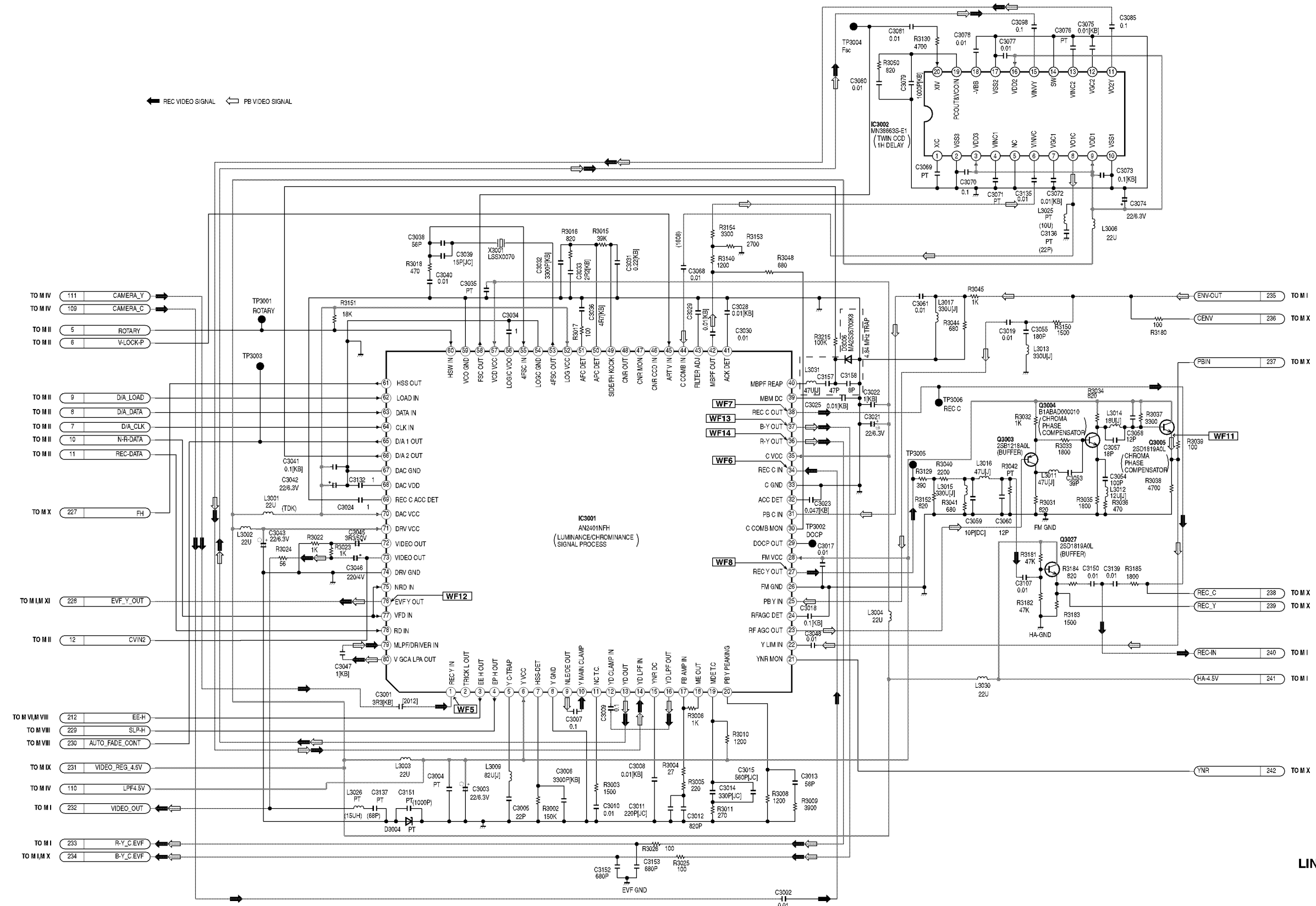
MAIN VII (VIDEO) SCHEMATIC DIAGRAM (A,B)

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
st. FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT

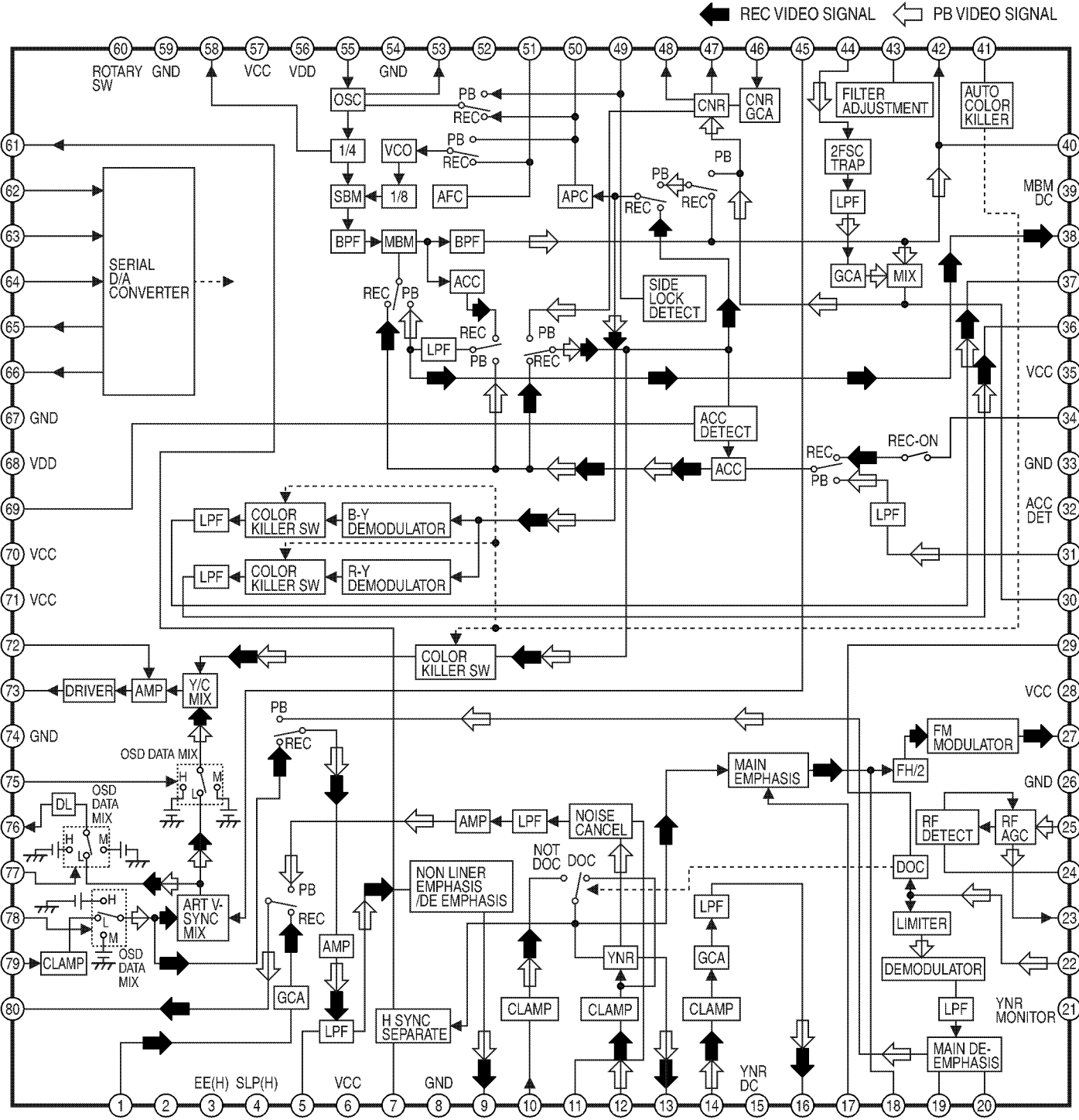


LINK TO VOLTAGE CHART

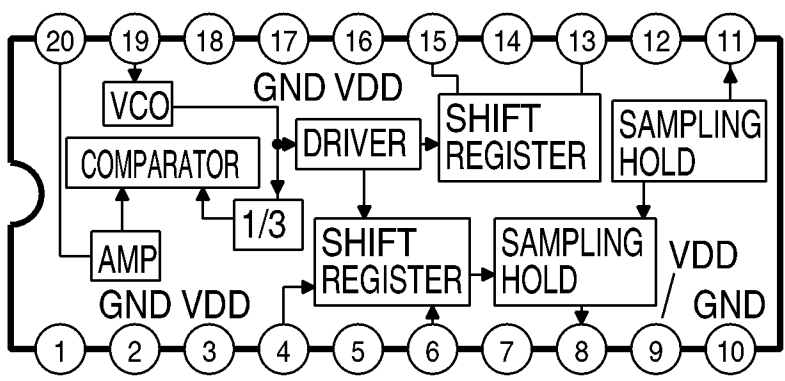
LINK TO SIGNAL WAVEFORM

LSJB8257
MAIN VII (VIDEO) SCHEMATIC DIAGRAM
PV-L354/PV-L354-K

IC3001 VIDEO/AUDIO PROCESS IC- DETAIL BLOCK DIAGRAM



IC3002 TWIN CCD IH DELAY IC- DETAIL BLOCK DIAGRAM



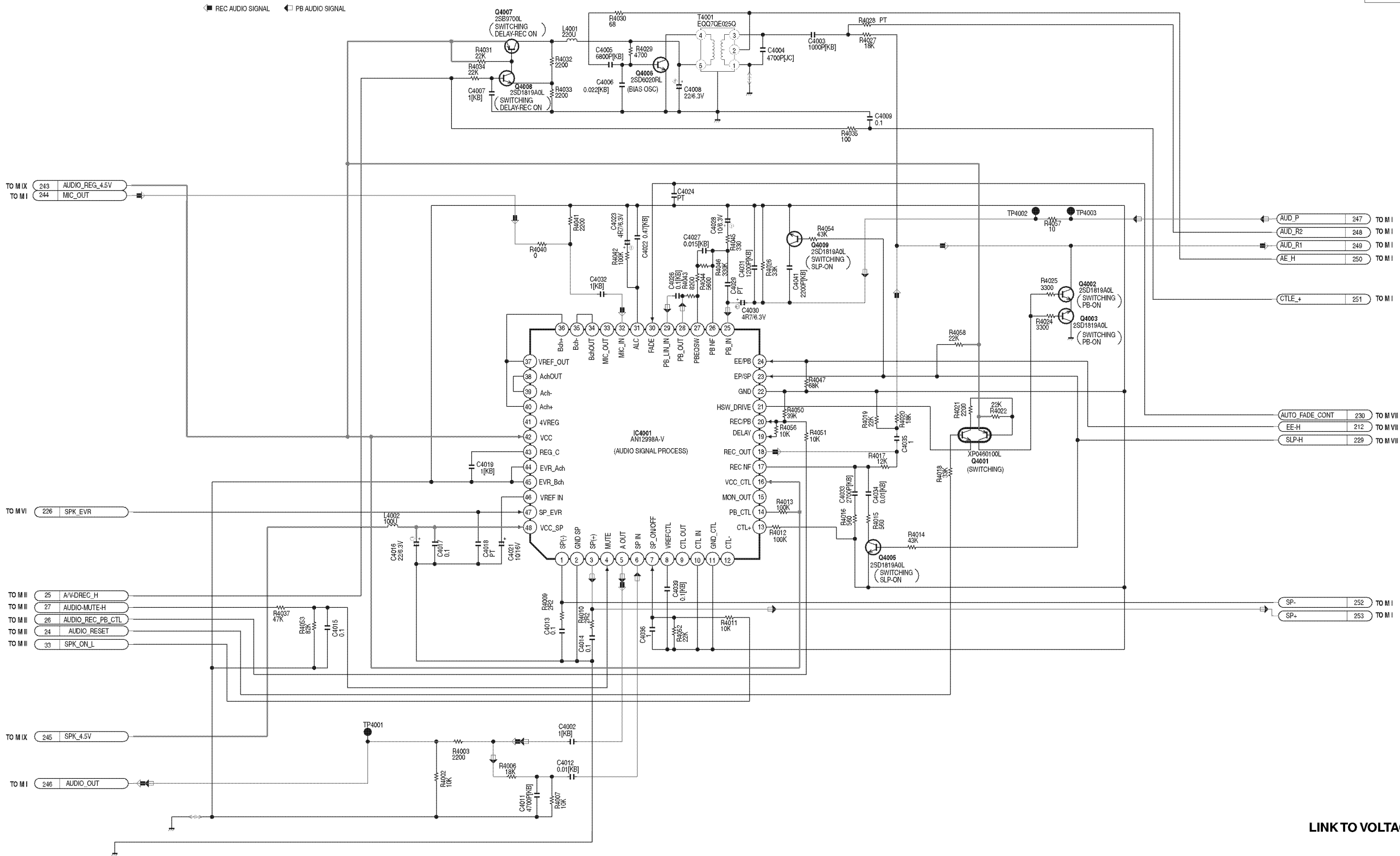
IC3001 DETAIL BLOCK DIAGRAM
/IC3002 DETAIL BLOCK DIAGRAM
PV-L354/PV-L354-K

MAIN VIII (AUDIO) SCHEMATIC DIAGRAM (A,B)

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

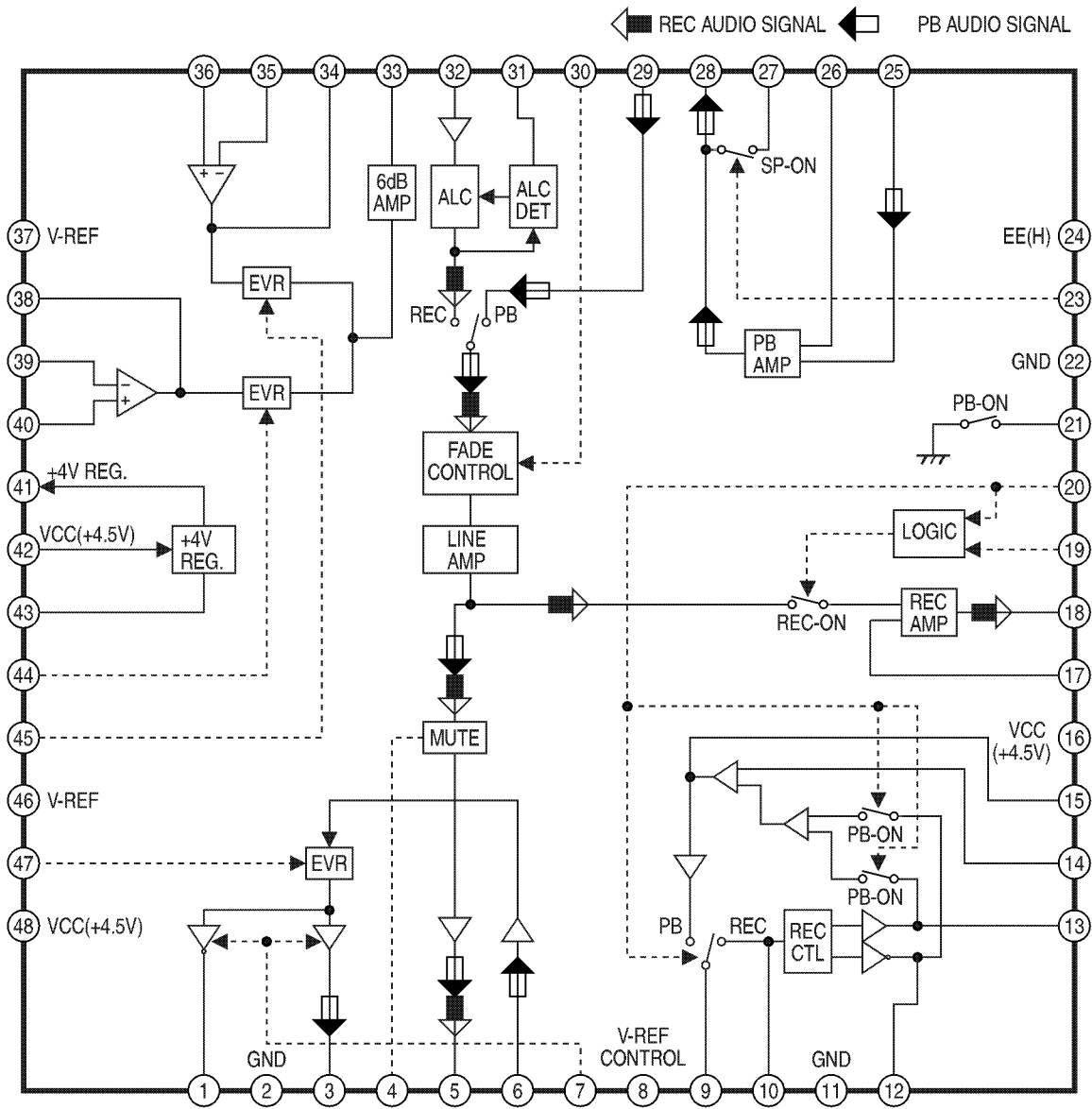
NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT

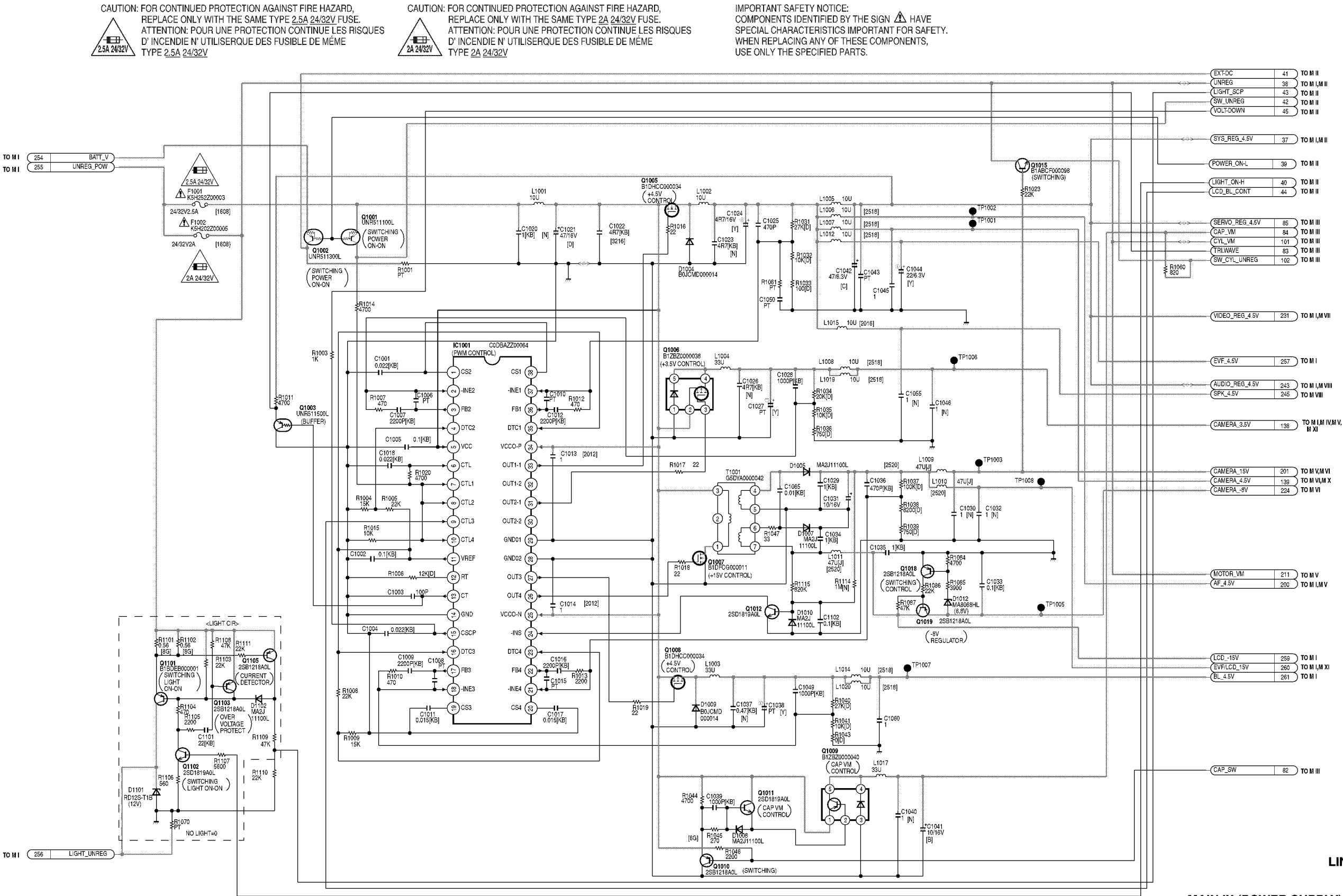


[LINK TO VOLTAGE CHART](#)

IC4001 AUDIO SIGNAL PROCESS IC- DETAIL BLOCK DIAGRAM



MAIN IX (POWER SUPPLY) SCHEMATIC DIAGRAM (A,B)



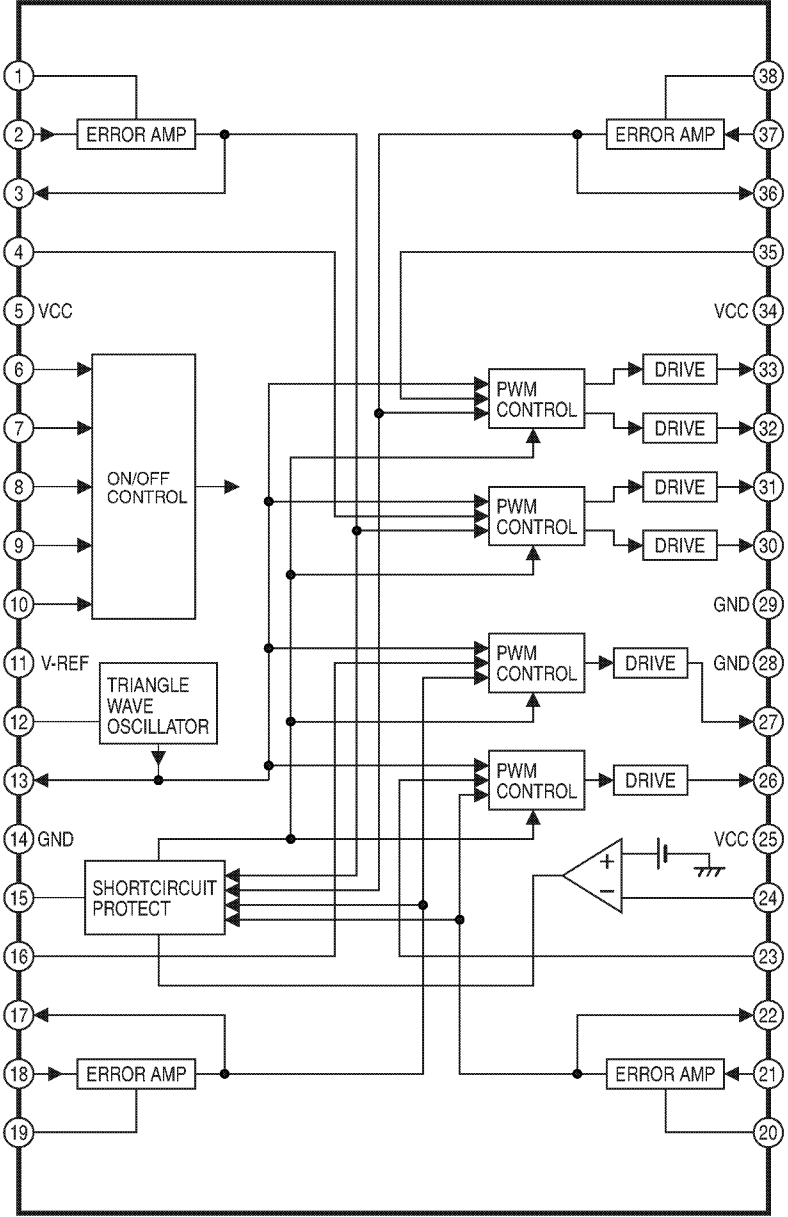
COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT

LINK TO VOLTAGE CHART

LSJB8257
MAIN IX (POWER SUPPLY) SCHEMATIC DIAGRAM
PV-L354/PV-L354-K

IC1001 PWM CONTROL IC- DETAIL BLOCK DIAGRAM

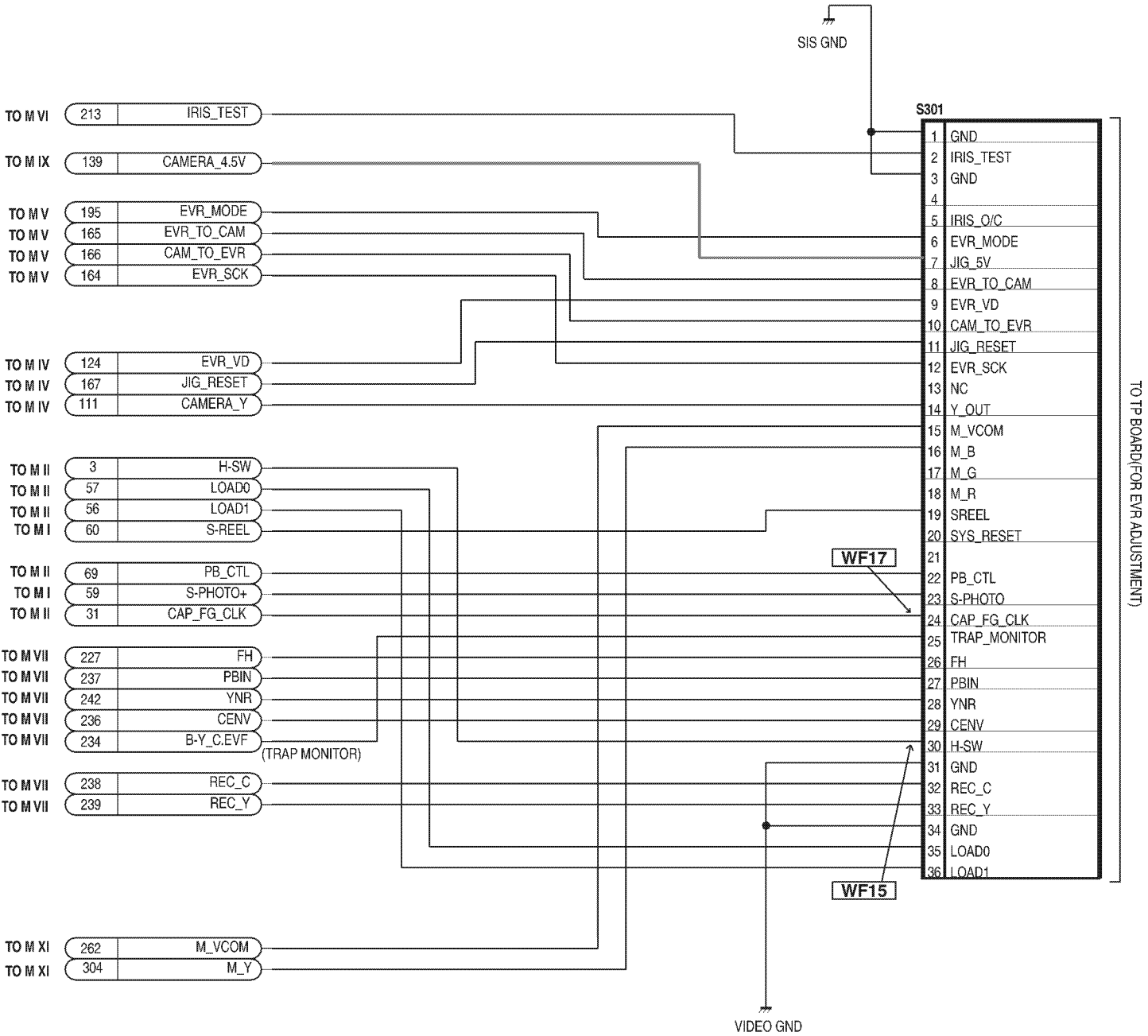


MAIN X (EVR CONNECTOR) SCHEMATIC DIAGRAM (A,B)

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT



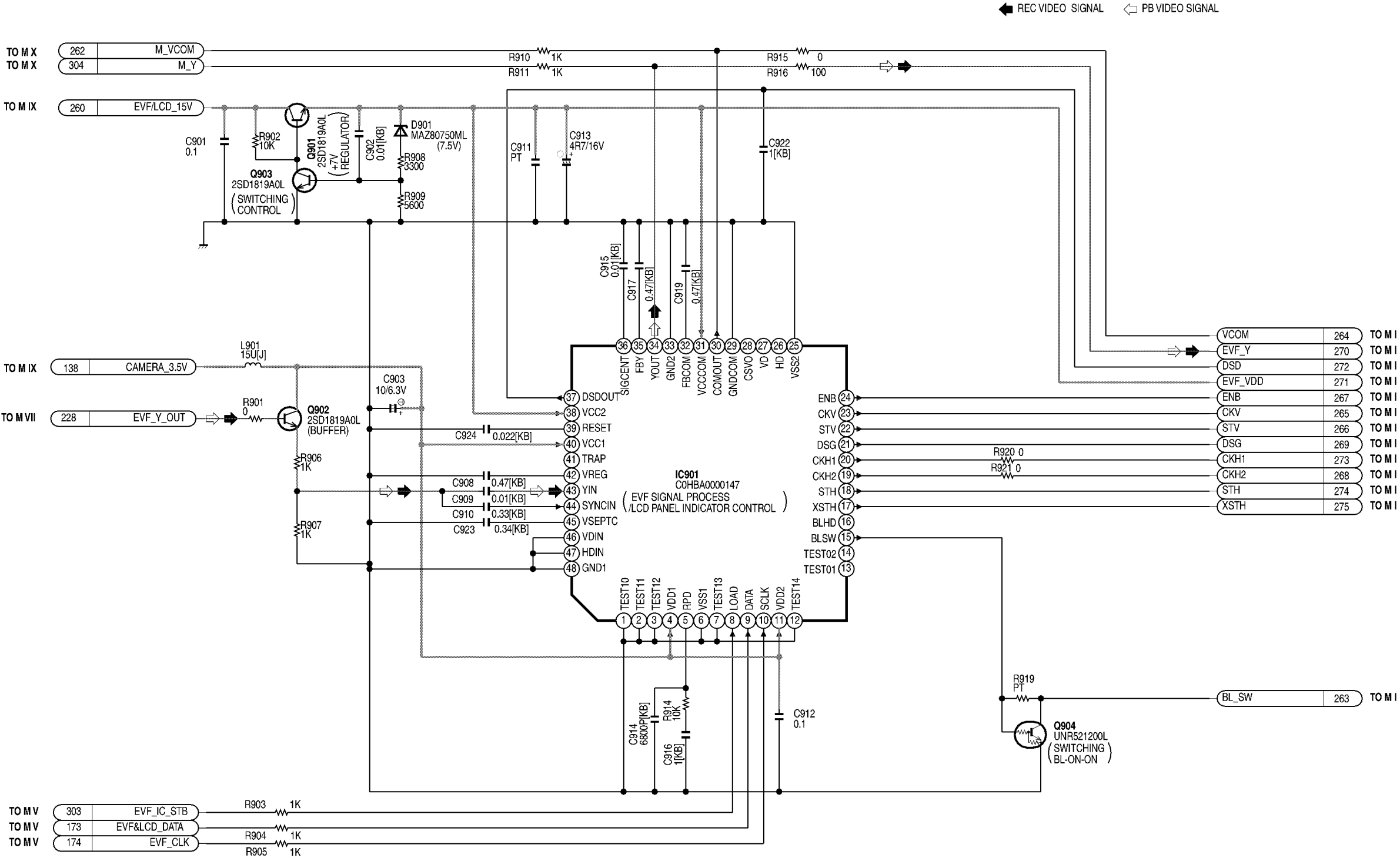
LINK TO SIGNAL WAVEFORM
LSJB8257
MAIN X (EVR CONNECTOR) SCHEMATIC DIAGRAM
PV-L354/PV-L354-K

MAIN XI (EVF) SCHEMATIC DIAGRAM (A,B)

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

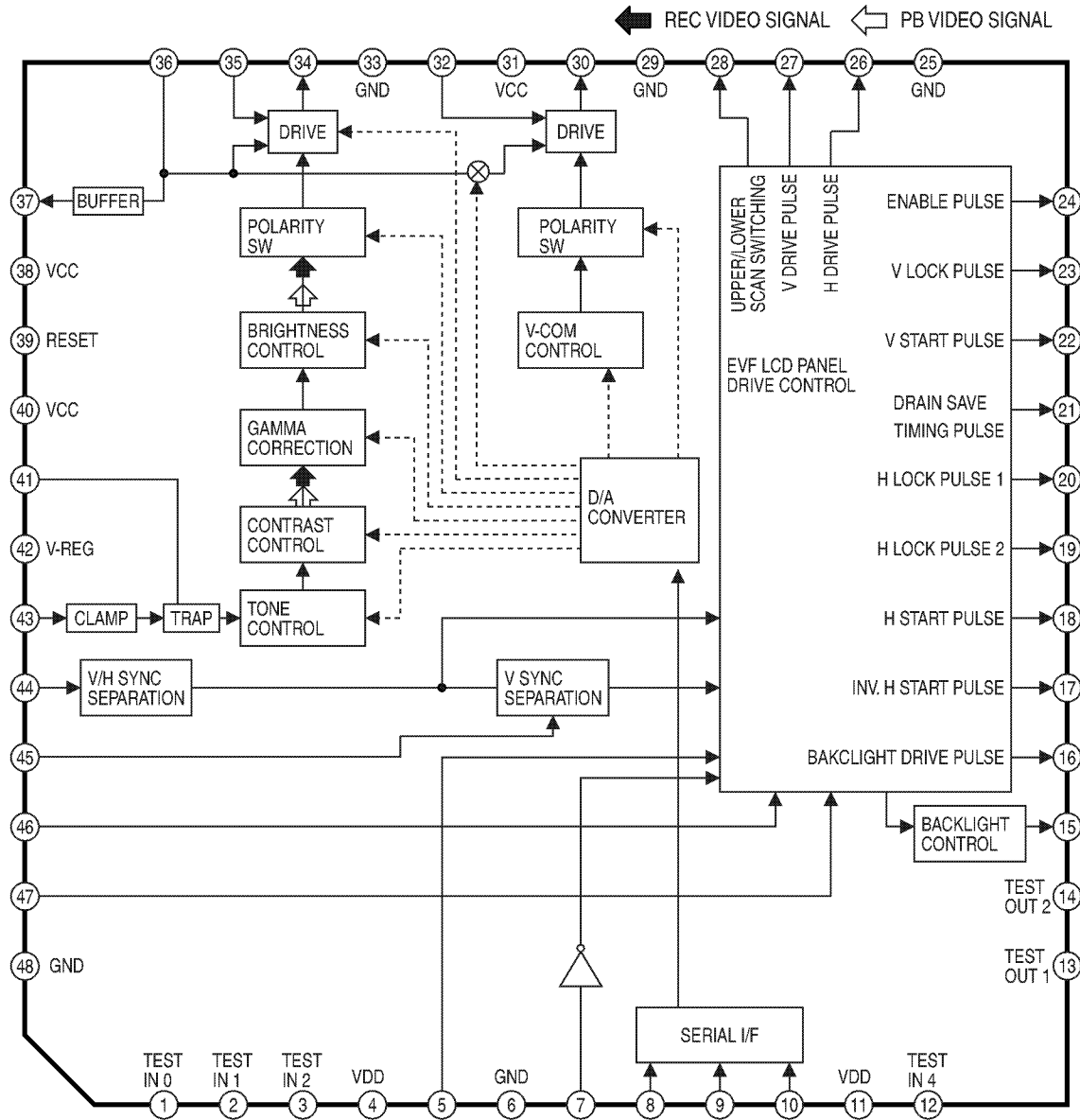
COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT



LINK TO VOLTAGE CHART

LSJB8257
MAIN XI (EVF) SCHEMATIC DIAGRAM
PV-L354/PV-L354-K

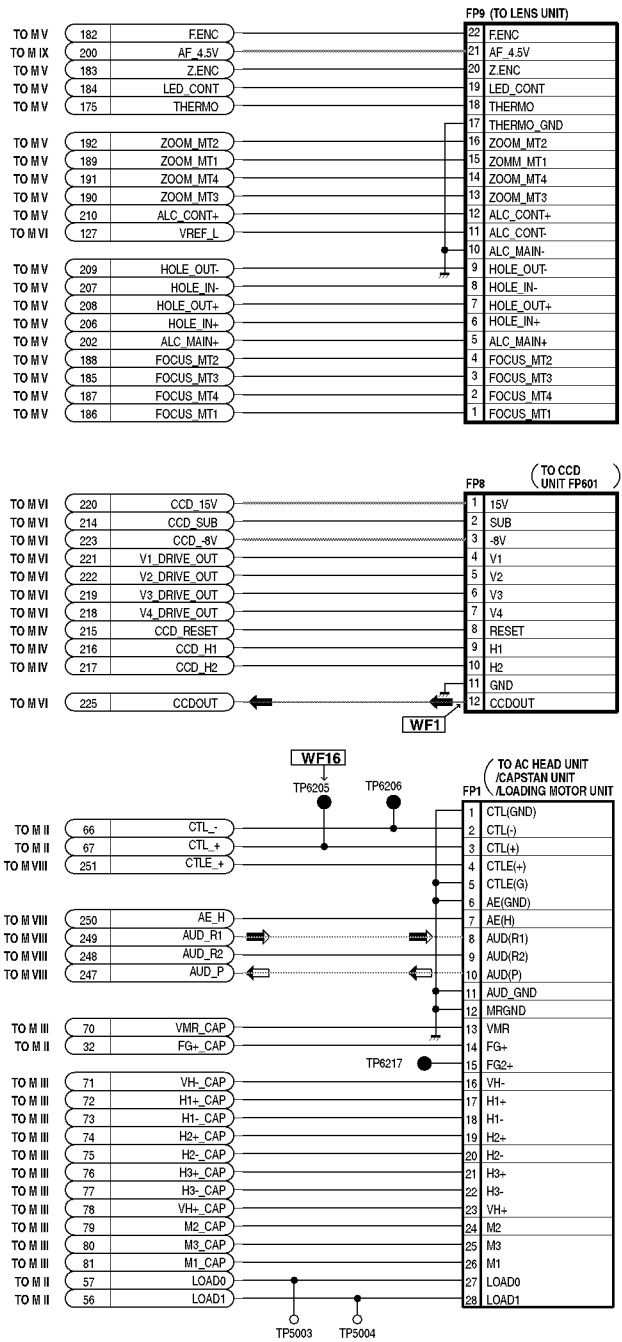
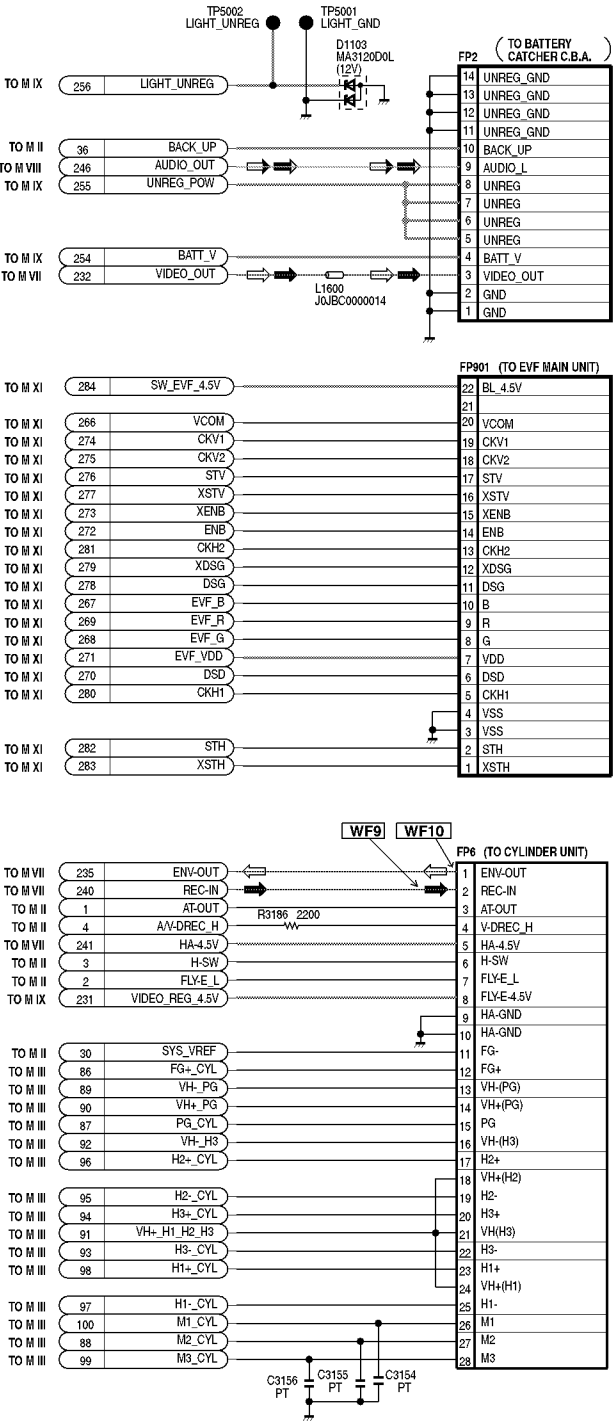
IC901 EVF SIGNAL PROCESS IC- DETAIL BLOCK DIAGRAM



NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

COMPARISON CHART OF MODELS & MARKS

 REC VIDEO SIGNAL
 PB VIDEO SIGNAL
 REC AUDIO SIGNAL
 PB AUDIO SIGNAL



LINK TO SIGNAL WAVEFORM

LSJB8290
MAIN I (CONNECTOR) SCHEMATIC DIAGRAM
PV-L454

I/O CHART OF IC6001

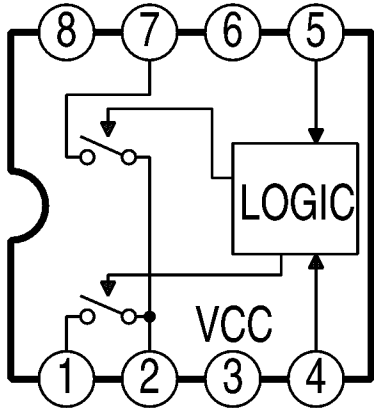
Pin No.	I/O	Signal Name	Description
1	I	POWER	POWER SW
2	I	TALLY	REC SW ON(L)
3	I	EJECT	EJECT SW
4	I	POS1	MODE SW POSITION 1
5	-	----	(Not used)
6	O	POWER	POWER ON(H)
7	O	LOAD2	LOADING MOTOR REV(H)
8	O	LOAD1	LOADING MOTOR FWD(H)
9	I	POS2	MODE SW POSITION 2
10	I	KEY_IN1	KEY DATA 1
11	I	NSBT1	CAM SERIAL CLOCK
12	I	NSBT1	CAM SERIAL DATA 0
13	O	NSBO1	CAM SERIAL DATA 1
14	O	NSBT0	SERIAL CLOCK
15	I	NSBI0	SERIAL DATA 0
16	O	NSBO0	SERIAL DATA 1
17	O	SPK_ON_H	SPEAKER ON(H)
18	-	----	(Not used)
19	O	CYLON	CYL ON(L)
20	O	TLIM	CAP TORQUE LIMIT
21	O	RSF	CAP DIRECTION CTL
22	O	ACC	FORCED ACCELERATION
23	O	HSW	HEAD SW
24	O	VLP	V-LOCK PULSE
25	I	NRST	RESET(L)
26	O	FLYE	FLYING ERASE ON(H)
27	O	VDREC	VIDEO DELAY REC(H)
28	O	LCD_ON-H	LCD ON(H)
29	O	ARECCT	AUDIO REC(H)/PB(L)
30	O	DTCS	IC6005 CS(H)
31	-	----	(Not used)
32	I	CAM-CS	CAM CS(L)
33	O	PWM1	CAP SPEED ERROR
34	O	PWM0	CYL SPEED ERROR
35	-	PWM4	(Not used)
36	I	VDD	VDD (+4.5V)
37	O	OSCO	OSC 1
38	I	OSCI	OSC 2
39	-	VSS	Ground
40	I	XI	CLOCK(32KHz)
41	-	XO	(Not used)
42	I	SXI	SXI
43	I	PHOTO	(Not used)
44	O	RSTOUT	AUDIO RESET(L)
45	O	EEPROM_CS	IC6008 CS(H)
46	O	RSTMN67324	IC301 RESET
47	O	CLOCK+B	CLOCK +B
48	-	VSS	Ground
49	-	----	(Not used)
50	I	CVIN	VIDEO
51	I	VDD2	VDD (+4.5V)
52	O	AFCC	AFC
53	I	AFCLPF	AFC
54	O	LCD_BL_CONT	LCD BACKLIGHT CONTROL

Pin No.	I/O	Signal Name	Description																								
55	O	LIGHT	LIGHT ON(H)																								
56	O	AMUTE	AUDIO MUTE(H)																								
57	O	VCS	D/A LOAD																								
58	O	VOB2	OSD BLANKING DATA																								
59	O	VOB1	OSD BLANKING DATA																								
60	O	VOW4	OSD DATA																								
61	O	VOW3	OSD (DATE/TIME) DATA																								
62	-	----	(Not used)																								
63	-	----	(Not used)																								
64	I	CDOWN	CASSETTE DOWN(L)																								
65	I	YFG	CYL FG																								
66	I	YPG	CYL PG																								
67	O	FGF	CAP FG																								
68	I	AFG	CAP PG																								
69	O	VRO	V-REF																								
70	I	VRI	V-REF																								
71	-	AVSS	Ground																								
72	I	CTLA	CTL AMP																								
73	I	AVDD	VDD (+4.5V)																								
74	I/O	RCTLP	CTL PULSE(+)																								
75	I/O	RCTLN	CTL PULSE(-)																								
76	O	CO	PB CONTROL PULSE																								
77	I	STAB	SAFETY TAB BROKEN(H)																								
78	I	LIGHT_SCP	LIGHT SHORT CIRCUIT PROTECT																								
79	I	LCDMOD	LCD PANEL MODE																								
<table><tr><th colspan="2">TERMINAL VOLTAGE</th><th colspan="2">LCD PANEL MODE</th></tr><tr><td></td><td></td><td>NORMAL/ REVERSE</td><td>OPEN/ CLOSE</td></tr><tr><td>0V</td><td></td><td>NORMAL</td><td>CLOSE</td></tr><tr><td>2.6V</td><td></td><td>NORMAL</td><td>OPEN</td></tr><tr><td>1.1V</td><td></td><td>REVERSE</td><td>CLOSE</td></tr><tr><td>3.5V</td><td></td><td>REVERSE</td><td>OPEN</td></tr></table>				TERMINAL VOLTAGE		LCD PANEL MODE				NORMAL/ REVERSE	OPEN/ CLOSE	0V		NORMAL	CLOSE	2.6V		NORMAL	OPEN	1.1V		REVERSE	CLOSE	3.5V		REVERSE	OPEN
TERMINAL VOLTAGE		LCD PANEL MODE																									
		NORMAL/ REVERSE	OPEN/ CLOSE																								
0V		NORMAL	CLOSE																								
2.6V		NORMAL	OPEN																								
1.1V		REVERSE	CLOSE																								
3.5V		REVERSE	OPEN																								
80	I	SREEL	SUPPLY REEL PULSE																								
81	I	KEYAD4	KEY DATA 4																								
82	I	KEYAD3	(Not used)																								
83	I	BATT/EXT	BATTERY/EXT VOLTAGE DETECT																								
84	I	KEYAD2	KEY DATA 2																								
85	I	BATT	BATTERY UNDERCUT																								
86	I	SPHOTO	SUPPLY PHOTO TR(L)																								
87	-	----	(Not used)																								
88	I	DEW	DEW SENSOR																								
89	I	ENV	ENV-VOLTAGE																								
90	I	TREEL	TAKE UP REEL PULSE																								
91	O	SLED	SENSOR LED ON(H)																								
92	O	DEW+B	DEW +B																								
93	-	----	(Not used)																								
94	O	KEYSCAN4	SCAN 4																								
95	O	KEYSCAN3	SCAN 3																								
96	O	KEYSCAN2	SCAN 2																								
97	O	KEYSCAN1	SCAN 1																								
98	O	ROTA	ROTARY SW																								
99	-	HAMP	(Not used)																								
100	-	DENV	(Not used)																								

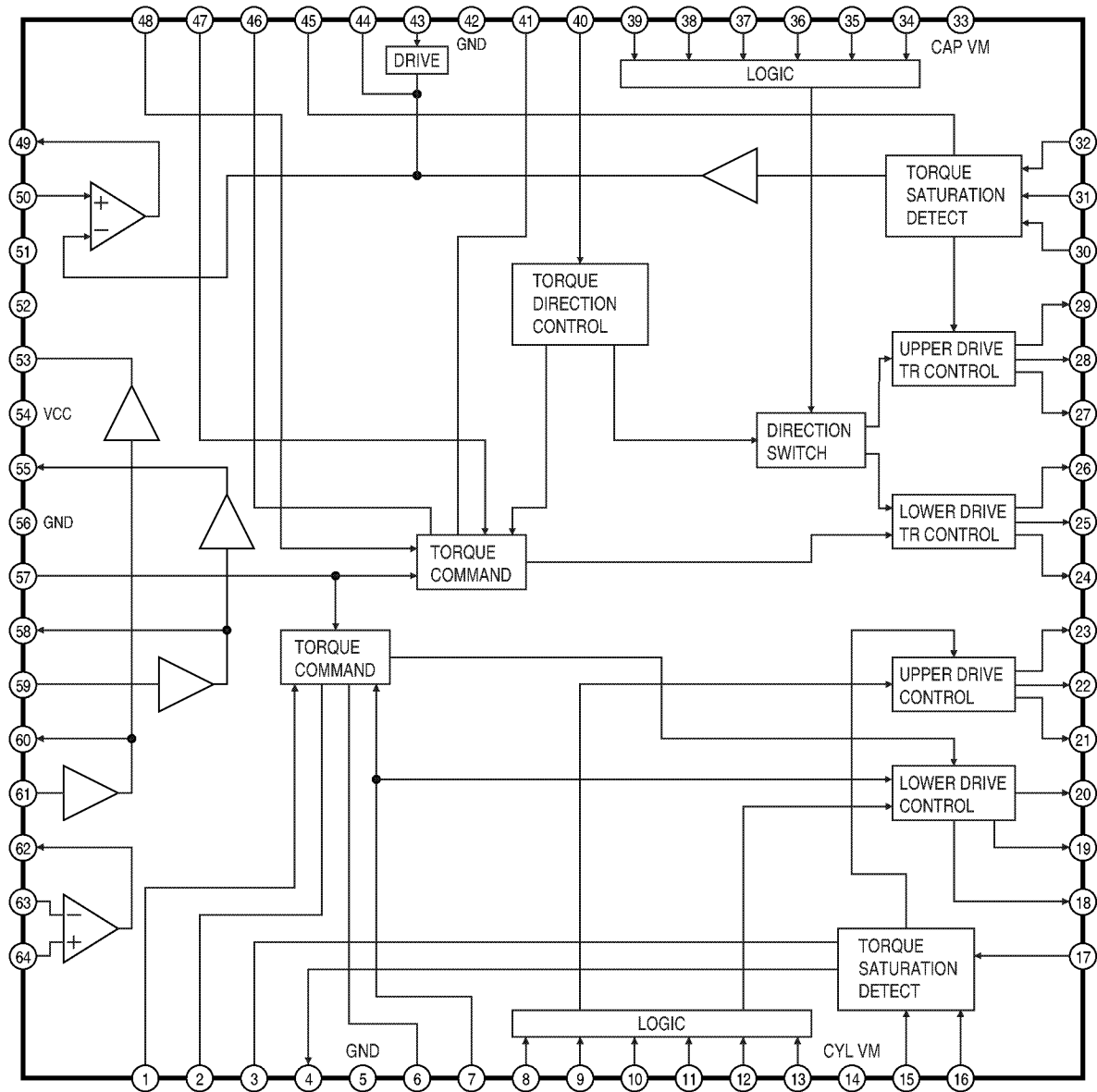
I/O CHART OF IC6005

Pin No.	I/O	Signal Name	Description
1	O	TP0	Clock (32kHz)
2	I	XIN	X In
3	O	XOUT	X Out
4	-	GND	Ground
5	I	CS	CS (H)
6	I	SCK	Serial Clock
7	I/O	SIO	Serial Data1
8	I	VDD	VDD (+3.5V)

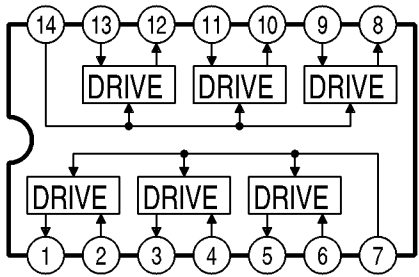
IC6007 LOADING MOTOR DRIVE IC- DETAIL BLOCK DIAGRAM



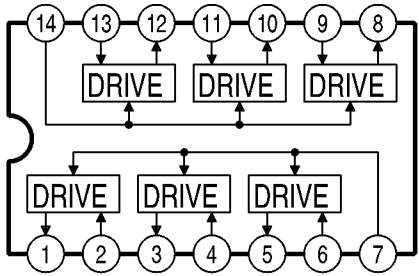
IC2001 CYL/CAP MOTOR DRIVE CONTROL IC- DETAIL BLOCK DIAGRAM



IC2002 CAP MOTOR DRIVE IC- DETAIL BLOCK DIAGRAM



IC2003 CYL MOTOR DRIVE IC- DETAIL BLOCK DIAGRAM



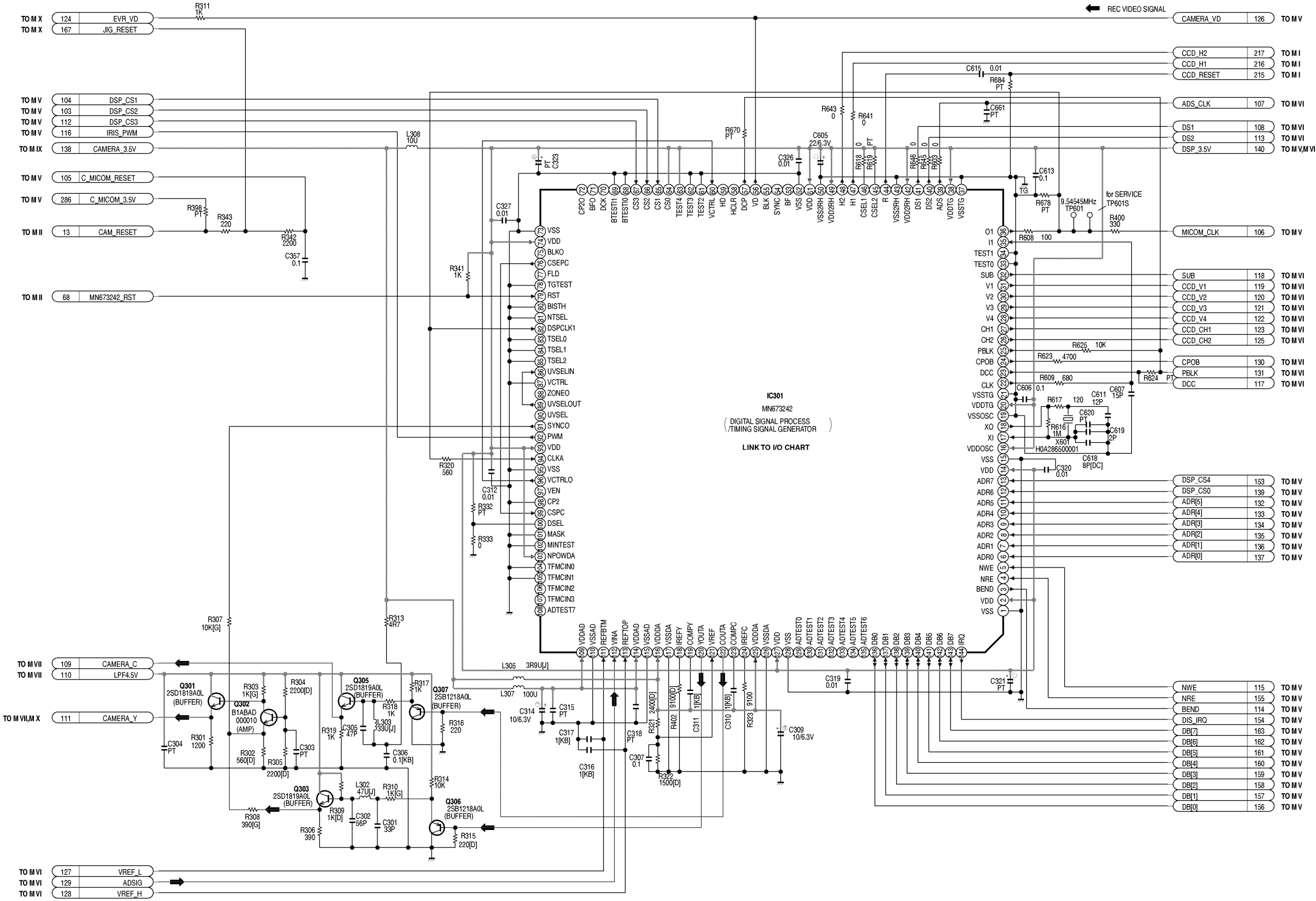
MAIN IV (CAMERA I) SCHEMATIC DIAGRAM (C)

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT



LINK TO VOLTAGE CHART

LSJB8290
MAIN IV (CAMERA I) SCHEMATIC DIAGRAM
PV-L454

I/O CHART OF IC301

Pin No.	I/O	Signal Name	Description
1	-	VSS	Ground
2	I	VDD	VDD (+3.5V)
3	O	BEND	BLOCK END CONTROL
4	I	NRE	READ ENABLE
5	I	NWE	WRITE ENABLE
6	I	ADR0	ADDRESS 0
7	I	ADR1	ADDRESS 1
8	I	ADR2	ADDRESS 2
9	I	ADR3	ADDRESS 3
10	I	ADR4	ADDRESS 4
11	I	ADR5	ADDRESS 5
12	I	ADR6	DSP CHIP SELECT 0
13	I	ADR7	DSP CHIP SELECT 4
14	I	VDD	VDD (+3.5V)
15	-	VSS	Ground
16	I	VDDOSC	VDD (+3.5V)
17	I	XI	28.6MHz OSC
18	O	XO	28.6MHz OSC
19	-	VSSOSC	Ground
20	I	VDDTG	VDD (+3.5V)
21	-	VSSTG	Ground
22	O	CLK	CLOCK
23	O	DCC	CLAMP PULSE
24	O	CPOB	OB CLAMP PULSE
25	O	PBLK	PRE BLANKING PULSE
26	O	CH2	V3 CHARGE PULSE
27	O	CH1	V1 CHARGE PULSE
28	O	V4	V4 PULSE
29	O	V3	V3 PULSE
30	O	V2	V2 PULSE
31	O	V1	V1 PULSE
32	O	SUB	SUB CONTROL PULSE
33	-	TEST0	(Not used)
34	-	TEST1	(Not used)
35	I	I1	CLOCK
36	O	O1	CLOCK
37	-	VSSTG	Ground
38	I	VDDTG	VDD (+3.5V)
39	O	ADS	ANALOG SAMPLING PULSE
40	O	DS2	DOUBLE SAMPLING PULSE 2
41	O	DS1	DOUBLE SAMPLING PULSE 1
42	I	VDD2RH	VDD (+3.5V)
43	-	VSS2RH	Ground
44	O	R	RESET PULSE
45	-	CSEL2	(Not used)
46	-	CSEL1	(Not used)
47	O	H1	H1 PULSE
48	O	H2	H2 PULSE
49	I	VDD2RH	VDD (+3.5V)
50	-	VSS2RH	Ground
51	I	VDD	VDD (+3.5V)
52	-	VSS	Ground
53	-	BF	(Not used)
54	-	SYNC	(Not used)
55	-	BLK	(Not used)
56	O	VD	V SYNC
57	O	DCP	CLAMP PULSE
58	-	HCLR	(Not used)
59	-	HD	(Not used)
60	I	VCTRL	V CONTROL
61	-	TEST2	(Not used)
62	-	TEST3	(Not used)
63	-	TEST4	(Not used)
64	I	CS0	(Not used)
65	I	CS1	DSP CHIP SELECT 1
66	I	CS2	DSP CHIP SELECT 2
67	I	CS3	DSP CHIP SELECT 3
68	-	BTEST10	(Not used)
69	-	BTEST11	(Not used)
70	-	DCK	(Not used)
71	-	BFO	(Not used)
72	-	CP20	(Not used)

Pin No.	I/O	Signal Name	Description
73	-	VSS	Ground
74	I	VDD	VDD (+3.5V)
75	-	BLK0	(Not used)
76	O	CSEPC	COLOR SEPARATION CONTROL
77	-	FLD	(Not used)
78	-	TGTEST	(Not used)
79	I	RST	RESET
80	-	BISTH	(Not used)
81	-	NTSEL	(Not used)
82	I	DSPCLK1	CLOCK
83	-	TSEL0	(Not used)
84	-	TSEL1	(Not used)
85	-	TSEL2	(Not used)
86	I	UVSELIN	R-Y(L)/B-Y(H)
87	-	VCTRL	(Not used)
88	-	ZONE0	(Not used)
89	O	UVSELOUT	R-Y(L)/B-Y(H)
90	-	UVSEL	(Not used)
91	O	SYNC0	V/H SYNC
92	O	PWM	IRIS PWM CONTROL
93	I	VDD	VDD (+3.5V)
94	I	CLKA	CLOCK
95	-	VSS	Ground
96	O	VCTRL0	V CONTROL
97	-	VEN	(Not used)
98	-	CP2	(Not used)
99	I	CSPC	COLOR SEPARATION CONTROL
100	-	DSEL	(Not used)
101	-	MASK	(Not used)
102	-	MINTEST	(Not used)
103	I	NPOWDA	(Not used)
104	-	TFMCIN1	(Not used)
105	-	TFMCIN2	(Not used)
106	-	TFMCIN3	(Not used)
107	-	FD0	(Not used)
108	-	ADTEST7	(Not used)
109	I	VDDAD	VDD (+3.5V)
110	-	VSSAD	Ground
111	I	REFBTM	V-REF(L)
112	I	VINA	A/D SIGNAL
113	I	REFTOP	V-REF(H)
114	I	VDDAD	VDD (+3.5V)
115	-	VSSAD	Ground
116	I	VDDDA	VDD (+3.5V)
117	-	VSSDA	Ground
118	-	IREFY	LUMINANCE D/A I-REF
119	-	COMPY	LUMINANCE D/A CONTROL
120	O	YOUTA	LUMINANCE
121	I	VREF	V-REF
122	O	COUTA	CHROMINANCE
123	-	COMPC	CHROMINANCE D/A CONTROL
124	-	IREFC	CHROMINANCE D/A I-REF
125	I	VDDDA	VDD (+3.5V)
126	-	VSSDA	Ground
127	I	VDD	VDD (+3.5V)
128	-	VSS	Ground
129	-	ADTEST0	(Not used)
130	-	ADTEST1	(Not used)
131	-	ADTEST2	(Not used)
132	-	ADTEST3	(Not used)
133	-	ADTEST4	(Not used)
134	-	ADTEST5	(Not used)
135	-	ADTEST6	(Not used)
136	I/O	DB0	DATA 0
137	I/O	DB1	DATA 1
138	I/O	DB2	DATA 2
139	I/O	DB3	DATA 3
140	I/O	DB4	DATA 4
141	I/O	DB5	DATA 5
142	I/O	DB6	DATA 6
143	I/O	DB7	DATA 7
144	O	IRQ	DIS INTERRUPT REQUEST

I/O CHART OF IC308

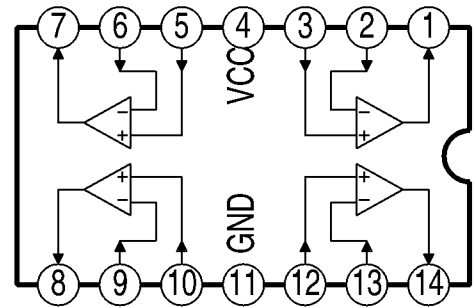
Pin No.	I/O	Signal Name	Description
1	O	CAM->VCR	CAM SERIAL DATA 0
2	I	VCR SLK	CAM SERIAL CLOCK
3	O	DAC LD	DAC LOAD
4	O	DAC SO	DAC SERIAL DATA
5	O	DAC SCK	DAC SERIAL CLOCK
6	I	VDD	VDD (+3.5V)
7	-	VSS	Ground
8	O	CAM CS	CAM CS(L)
9	-	NC	(Not used)
10	O	ADRS0	ADDRESS 0
11	O	ADRS1	ADDRESS 1
12	O	ADRS2	ADDRESS 2
13	O	ADRS3	ADDRESS 3
14	O	ADRS4	ADDRESS 4
15	O	ADRS5	ADDRESS 5
16	-	NC	(Not used)
17	-	NC	(Not used)
18	-	VSS/VPP	Ground
19	I/O	DATA0	DATA 0
20	I/O	DATA1	DATA 1
21	I/O	DATA2	DATA 2
22	I/O	DATA3	DATA 3
23	I/O	DATA4	DATA 4
24	I/O	DATA5	DATA 5
25	I/O	DATA6	DATA 6
26	I/O	DATA7	DATA 7
27	O	CS0	CHIP SELECT 0
28	O	CS1	CHIP SELECT 1
29	O	CS2	CHIP SELECT 2
30	O	CS3	CHIP SELECT 3
31	I	RESET	RESET(L)
32	-	XT1	(Not used)
33	-	NC	(Not used)
34	I	VDD	VDD (+3.5V)
35	-	X2	(Not used)
36	I	X1	14.3 MHz CLOCK
37	-	VSS	Ground
38	-	CLKOUT	(Not used)
39	O	CS4	CHIP SELECT 4
40	O	EE CS	EEPROM CS(L)
41	O	EVF CS	EVF LOAD
42	O	LCD CS	LCD LOAD
43	-	NC	(Not used)
44	-	NC	(Not used)
45	O	RE	READ ENABLE
46	O	WE	WRITE ENABLE
47	O	ZDC0	ZOOM MOTOR DRIVE CONTROL 0
48	O	ZDC1	ZOOM MOTOR DRIVE CONTROL 1
49	O	ZDC2	ZOOM MOTOR DRIVE CONTROL 2
50	O	ZD0	ZOOM MOTOR DRIVE 0

Pin No.	I/O	Signal Name	Description
51	O	ZD1	ZOOM MOTOR DRIVE 1
52	O	ZD2	ZOOM MOTOR DRIVE 2
53	O	ZD3	ZOOM MOTOR DRIVE 3
54	-	NC	(Not used)
55	I	VDD	VDD (+3.5V)
56	-	VSS	Ground
57	O	FDC0	FOCUS MOTOR DRIVE CONTROL 0
58	O	FDC1	FOCUS MOTOR DRIVE CONTROL 1
59	O	FDC2	FOCUS MOTOR DRIVE CONTROL 2
60	O	FD0	FOCUS MOTOR DRIVE 0
61	O	FD1	FOCUS MOTOR DRIVE 1
62	O	FD2	FOCUS MOTOR DRIVE 2
63	O	FD3	FOCUS MOTOR DRIVE 3
64	-	NC	(Not used)
65	-	TEST CLK	(Not used)
66	-	TEST DATA	(Not used)
67	O	EVF BL ON H	EVF BACKLIGHT ON(H)
68	O	LED CNT	LED CONTROL
69	I	Z ENC	ZOOM ENCODER
70	I	F ENC	FOCUS ENCODER
71	I	AVDD	VDD (+3.5V)
72	-	AVSS	Ground
73	I	AVREF	V-REF
74	I	ZOOM AD	ZOOM SWITCH DET
75	I	FNO	F NUMBER SIGNAL
76	I	THERMO	THERMO (LENS TEMPERATURE DET.)
77	-	LCD BRIGHT	(Not used)
78	-	AD4	(Not used)
79	-	AD5	(Not used)
80	-	AD6	(Not used)
81	-	AD7	(Not used)
82	-	----	(Not used)
83	-	----	(Not used)
84	-	----	(Not used)
85	-	----	(Not used)
86	-	NC	(Not used)
87	I	VD	V-SYNC
88	I	DIS IRQ	DIS IRQ
89	I	BEVD	BLOCK END CONTROL
90	-	NC	(Not used)
91	-	NC	(Not used)
92	-	NC	(Not used)
93	I	EVR MODE	EVR MODE
94	I	EVR->CAM	EVR SERIAL DATA 1
95	O	CAM->EVR	EVR SERIAL DATA 0
96	I	EVR CLK	EVR SERIAL CLOCK
97	I	EE SI	SERIAL DATA 1
98	O	EE/EVF S0	SERIAL DATA 0
99	O	EE/EVF SCK	SERIAL CLOCK
100	I	VCR->CAM	CAM SERIAL DATA 1

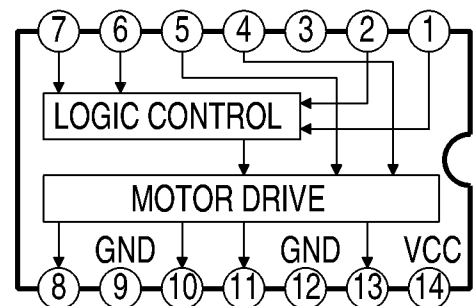
I/O CHART OF IC306

Pin No.	I/O	Signal Name	Description
1	-	R/B	(Not Used)
2	I	VCC	VDD (+3.5V)
3	I	CS	EEPROM CS(L)
4	I	SK	Serial Clock
5	I	DI	Serial Data 0
6	O	DO	Serial Data 1
7	-	GND	Ground
8	I	RES	Reset (L)

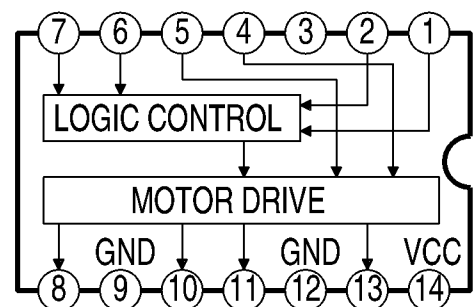
IC309 HALL/IRIS AMP
IC- DETAIL BLOCK DIAGRAM



IC701 FOCUS MOTOR DRIVE
IC- DETAIL BLOCK DIAGRAM



IC702 ZOOM MOTOR DRIVE
IC- DETAIL BLOCK DIAGRAM



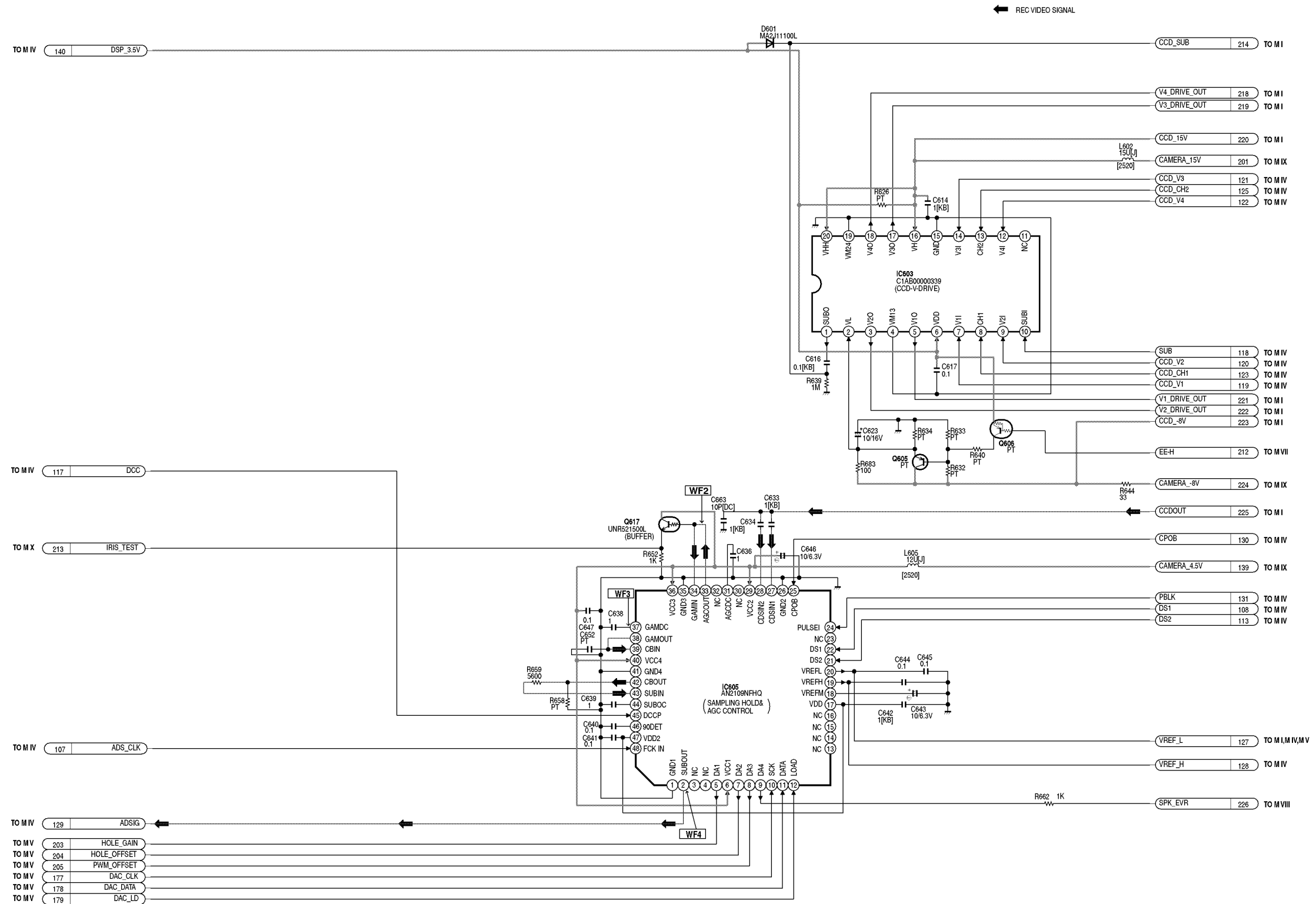
MAIN VI (CCD DRIVE) SCHEMATIC DIAGRAM (C)

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT

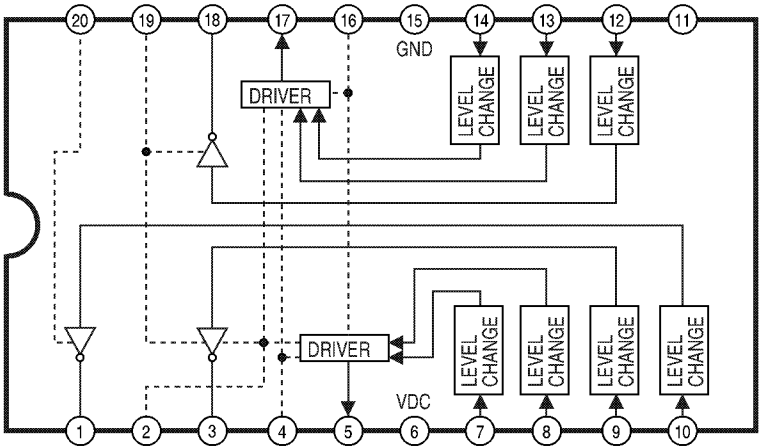


LINK TO VOLTAGE CHART

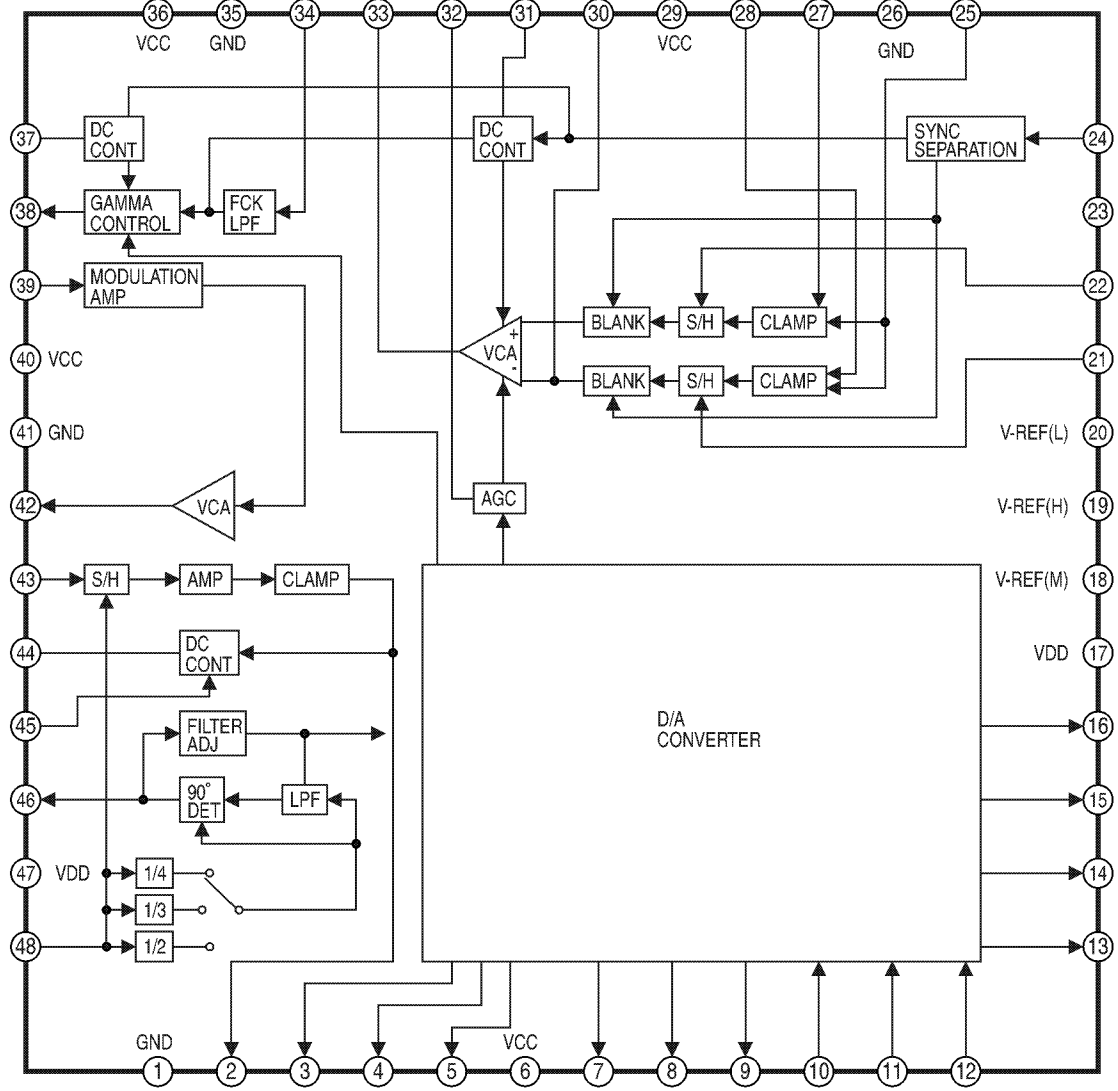
LINK TO SIGNAL WAVEFORM

LSJB8290
MAIN VI (CCD DRIVE) SCHEMATIC DIAGRAM
PV-L454

IC603 CCD V DRIVE
IC- DETAIL BLOCK DIAGRAM



IC605 SAMPLING HOLD / AGC CONTROL
IC- DETAIL BLOCK DIAGRAM



IC603 DETAIL BLOCK DIAGRAM
/IC605 DETAIL BLOCK DIAGRAM
PV-L454

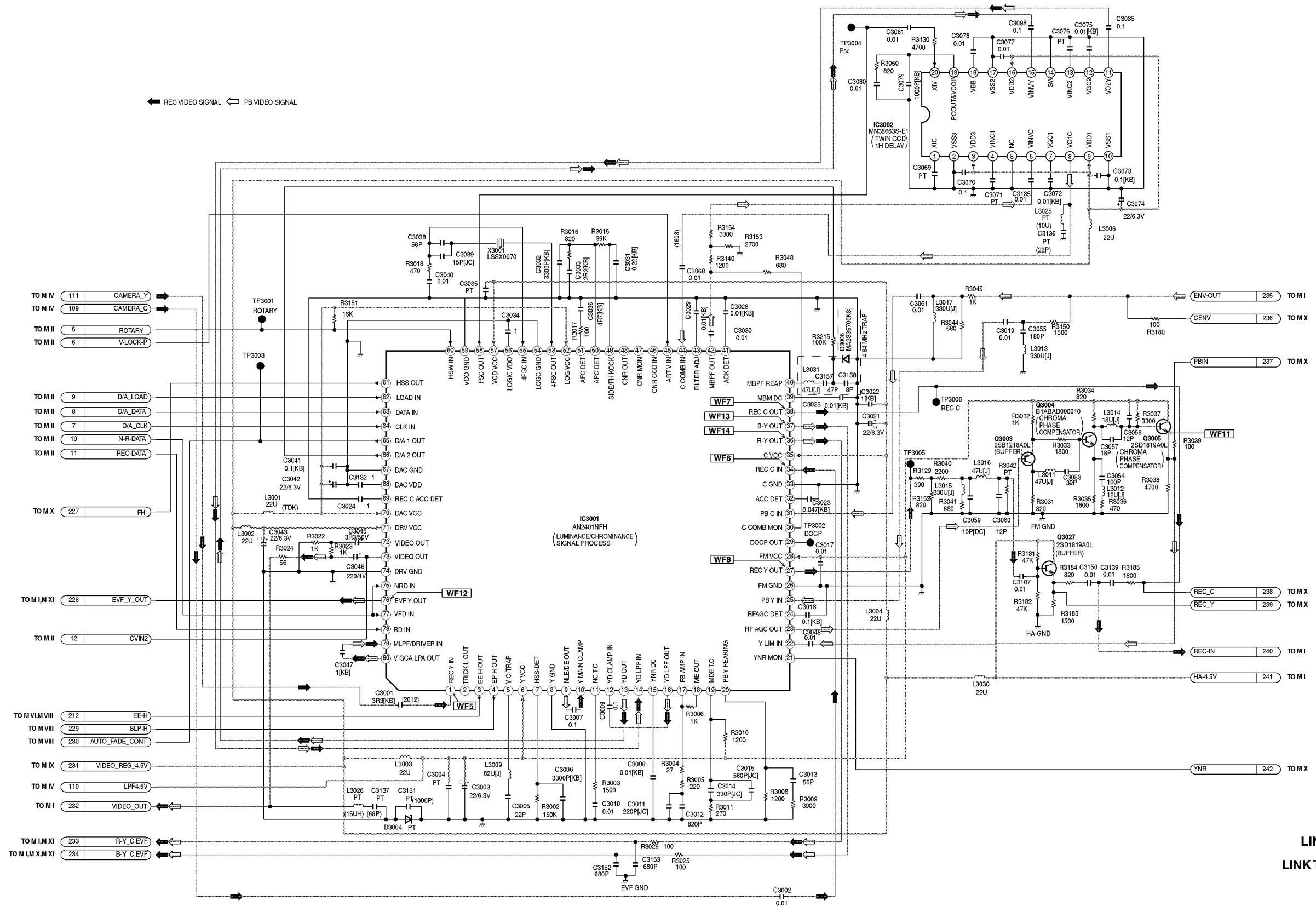
MAIN VII (VIDEO) SCHEMATIC DIAGRAM (C)

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT



LINK TO VOLTAGE CHART

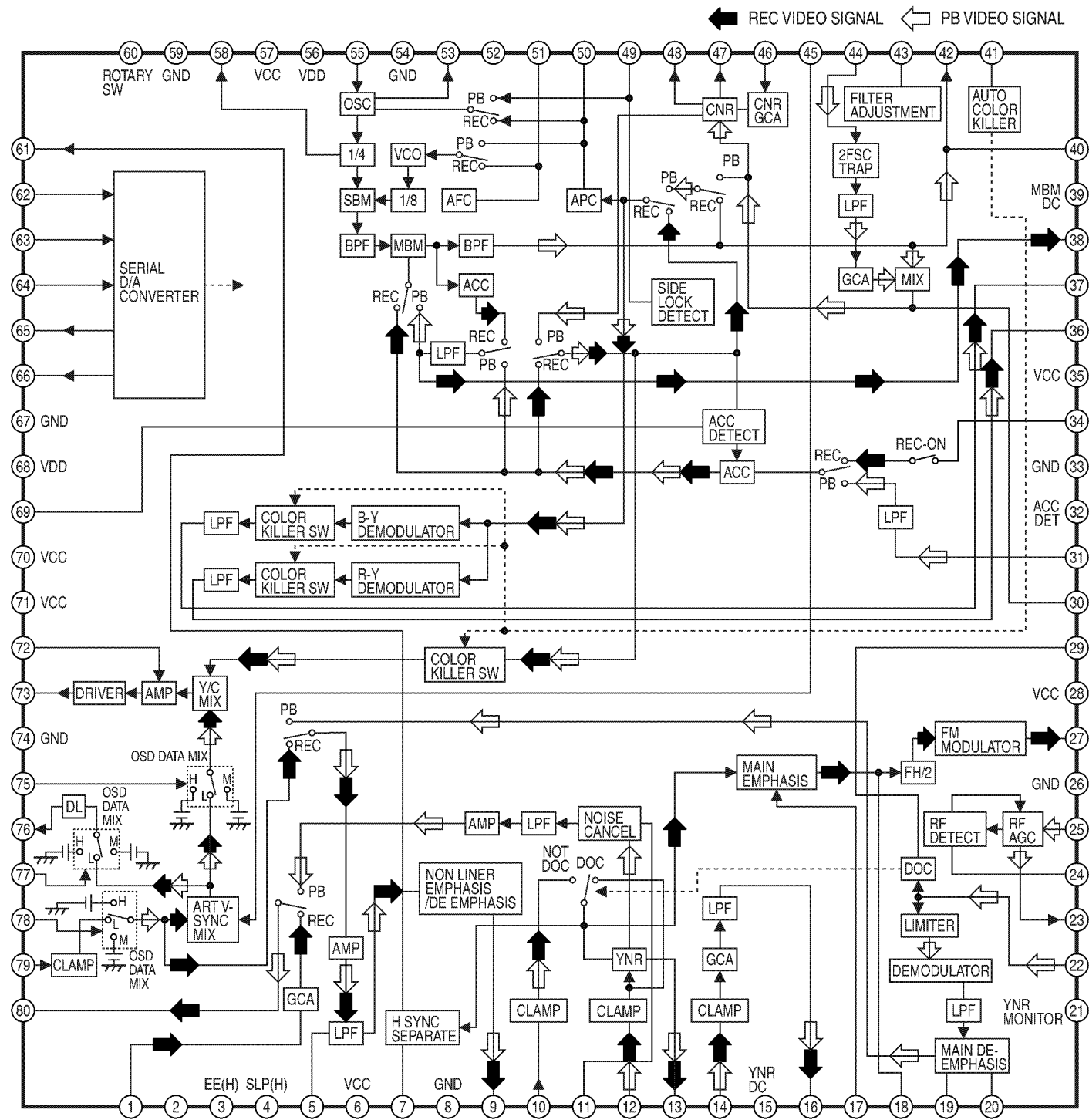
LINK TO SIGNAL WAVEFORM

LSJB8290

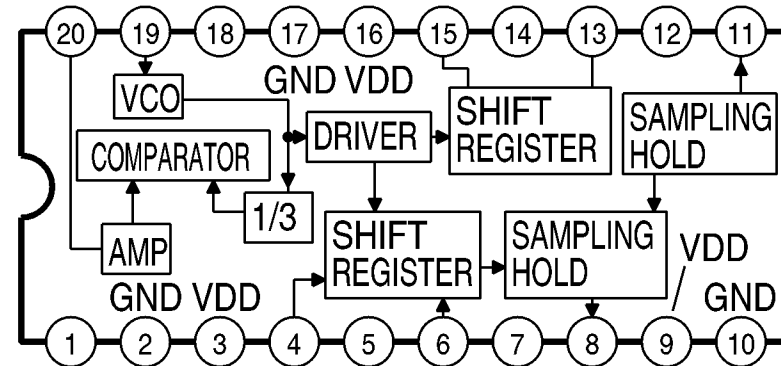
**MAIN VII (VIDEO) SCHEMATIC DIAGRAM
PV-L454**

IC3001 LUMINANCE/CHROMINANCE SIGNAL PROCESS

IC- DETAIL BLOCK DIAGRAM



IC3002 TWIN CCD IH DELAY IC- DETAIL BLOCK DIAGRAM



IC3001 DETAIL BLOCK DIAGRAM
/IC3002 DETAIL BLOCK DIAGRAM
PV-L454

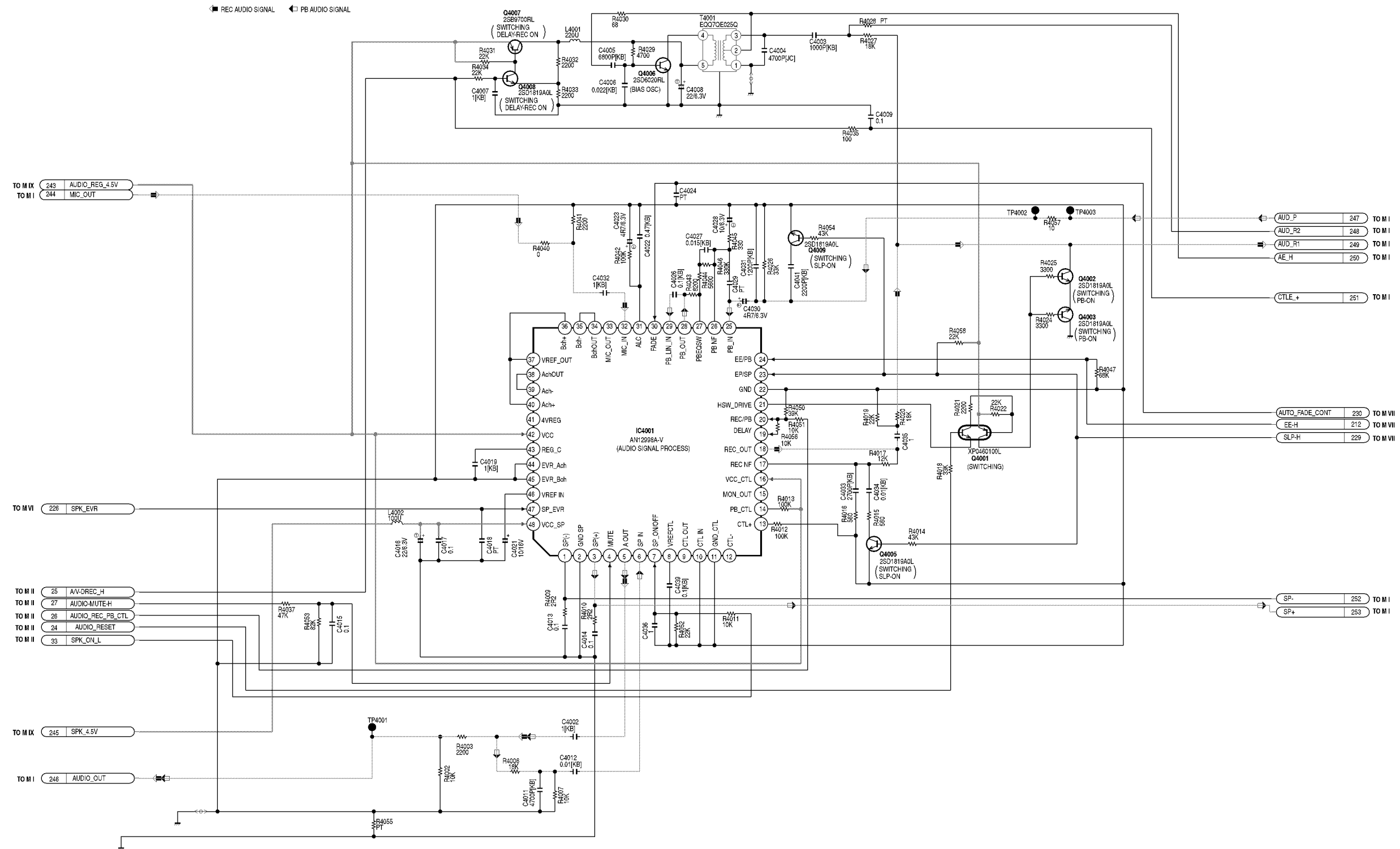
MAIN VIII (AUDIO) SCHEMATIC DIAGRAM (C)

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

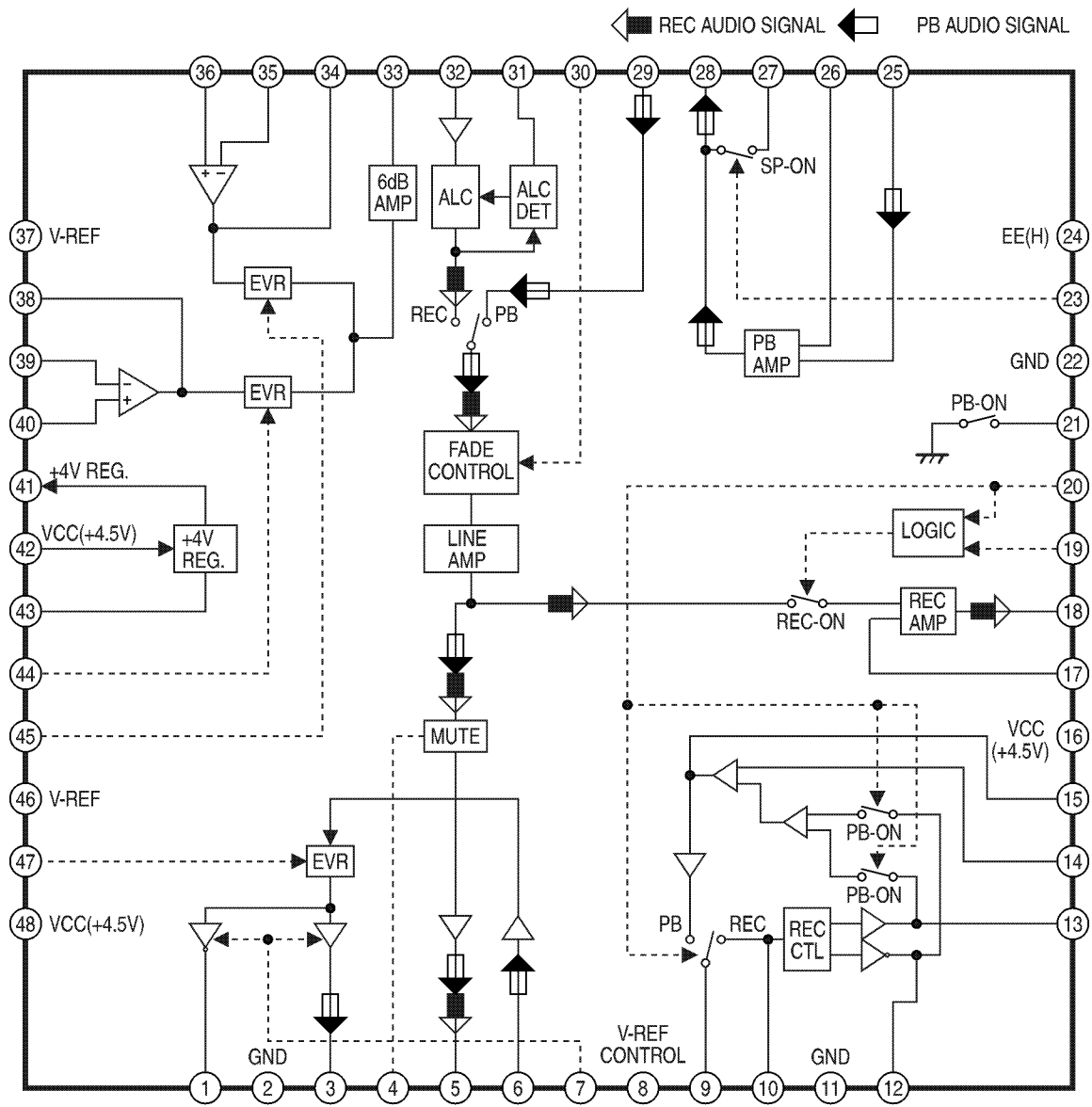
MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT



LINK TO VOLTAGE CHART

LSJB8290
MAIN VIII (AUDIO) SCHEMATIC DIAGRAM
PV-L454

IC4001 AUDIO SIGNAL PROCESS IC- DETAIL BLOCK DIAGRAM



MAIN IX (POWER SUPPLY) SCHEMATIC DIAGRAM (C)

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 2.5A 24/32V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÊME
TYPE 2.5A 24/32V

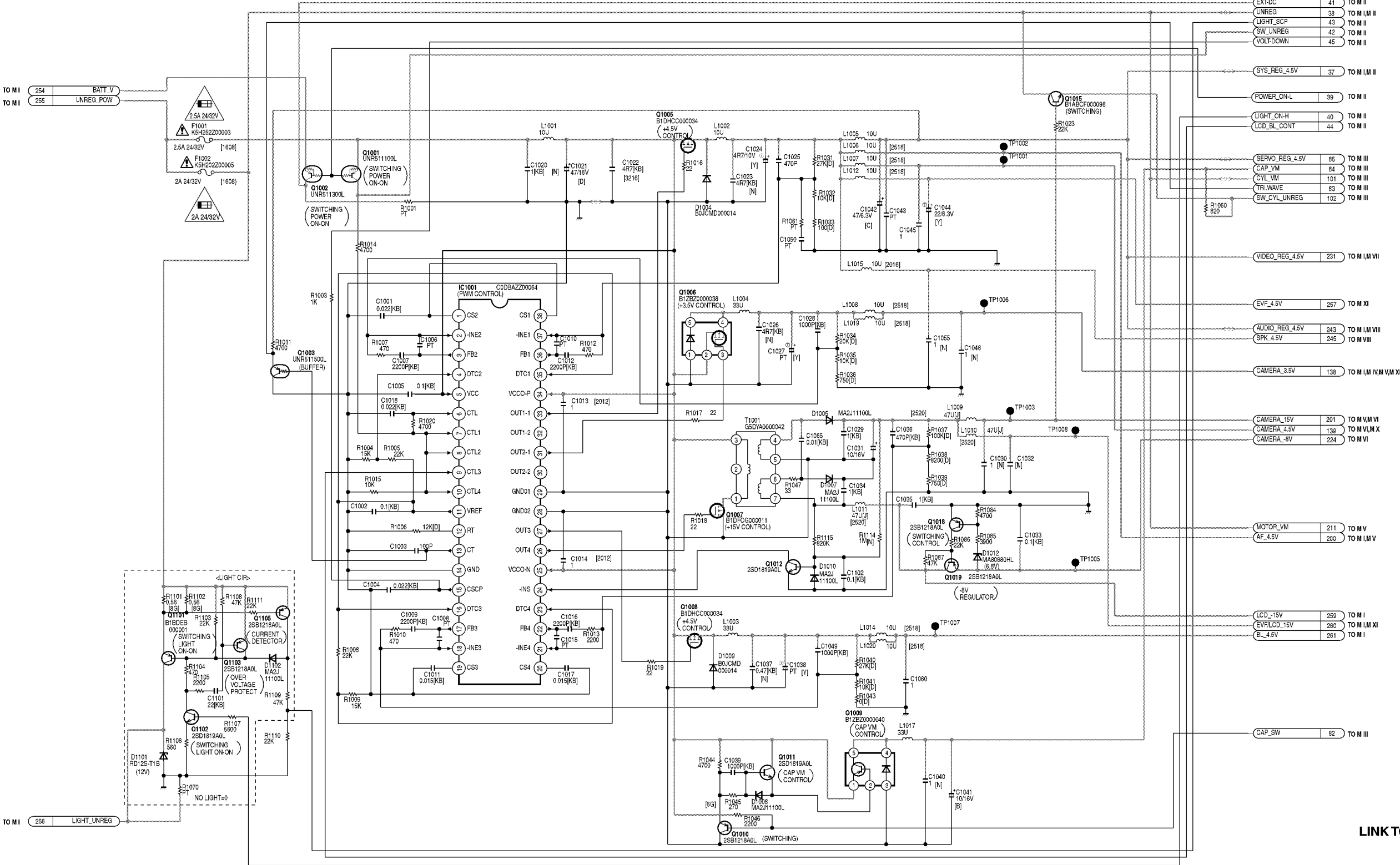
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 2A 24/32V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÊME
TYPE 2A 24/32V

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

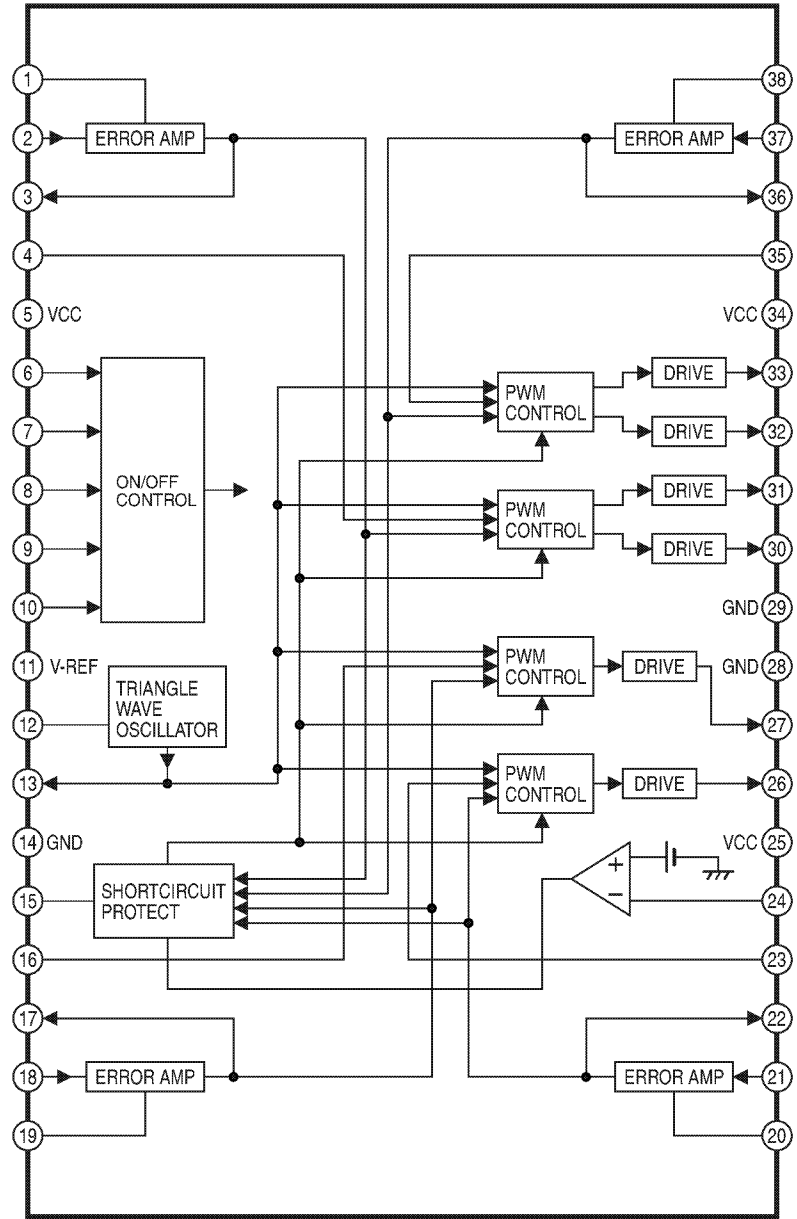
MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT



LINK TO VOLTAGE CHART

LSJB8290
MAIN IX (POWER SUPPLY) SCHEMATIC DIAGRAM
PV-L454

IC1001 PWM CONTROL IC- DETAIL BLOCK DIAGRAM



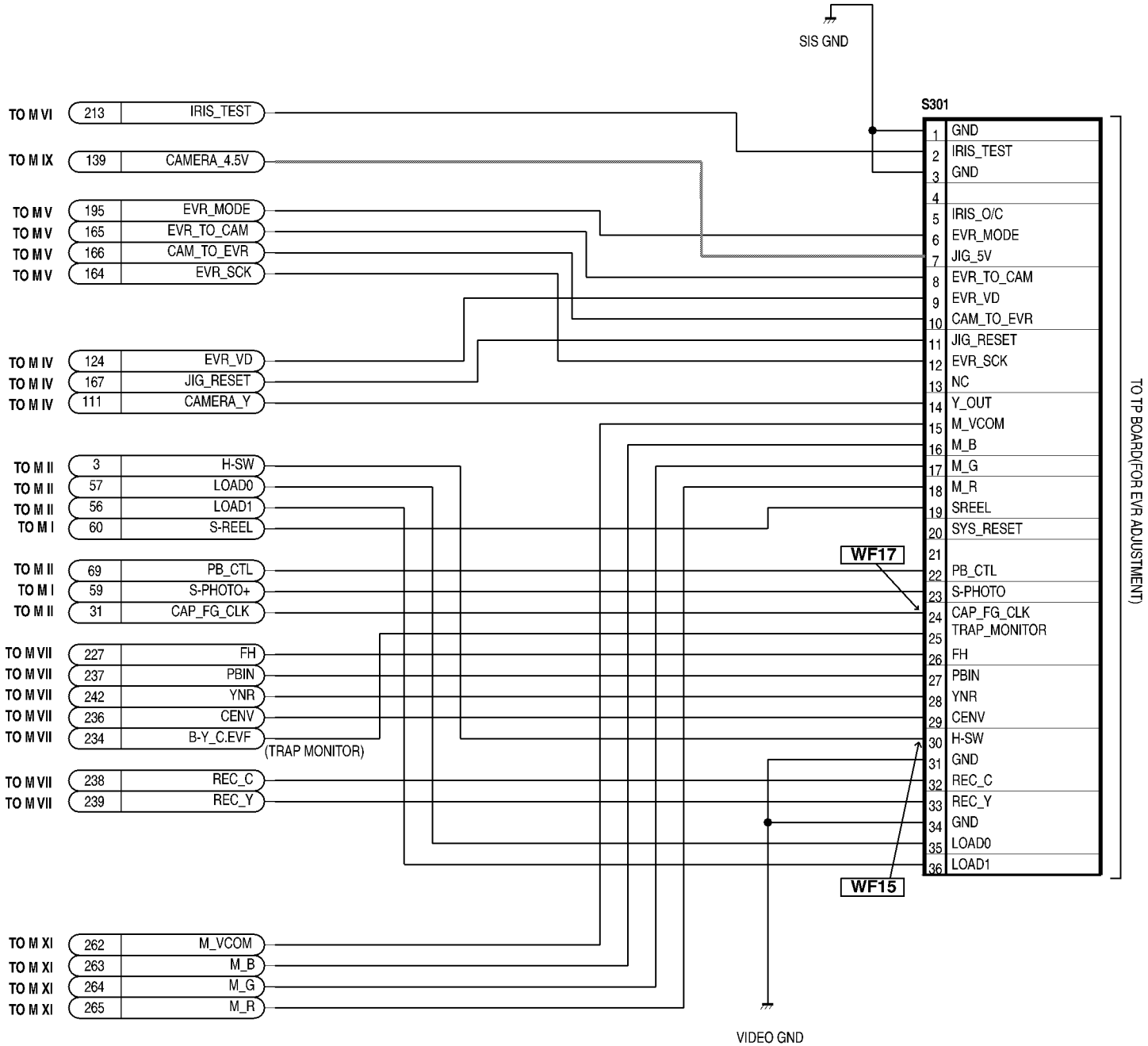
MAIN X (EVR CONNECTOR) SCHEMATIC DIAGRAM (C)

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT

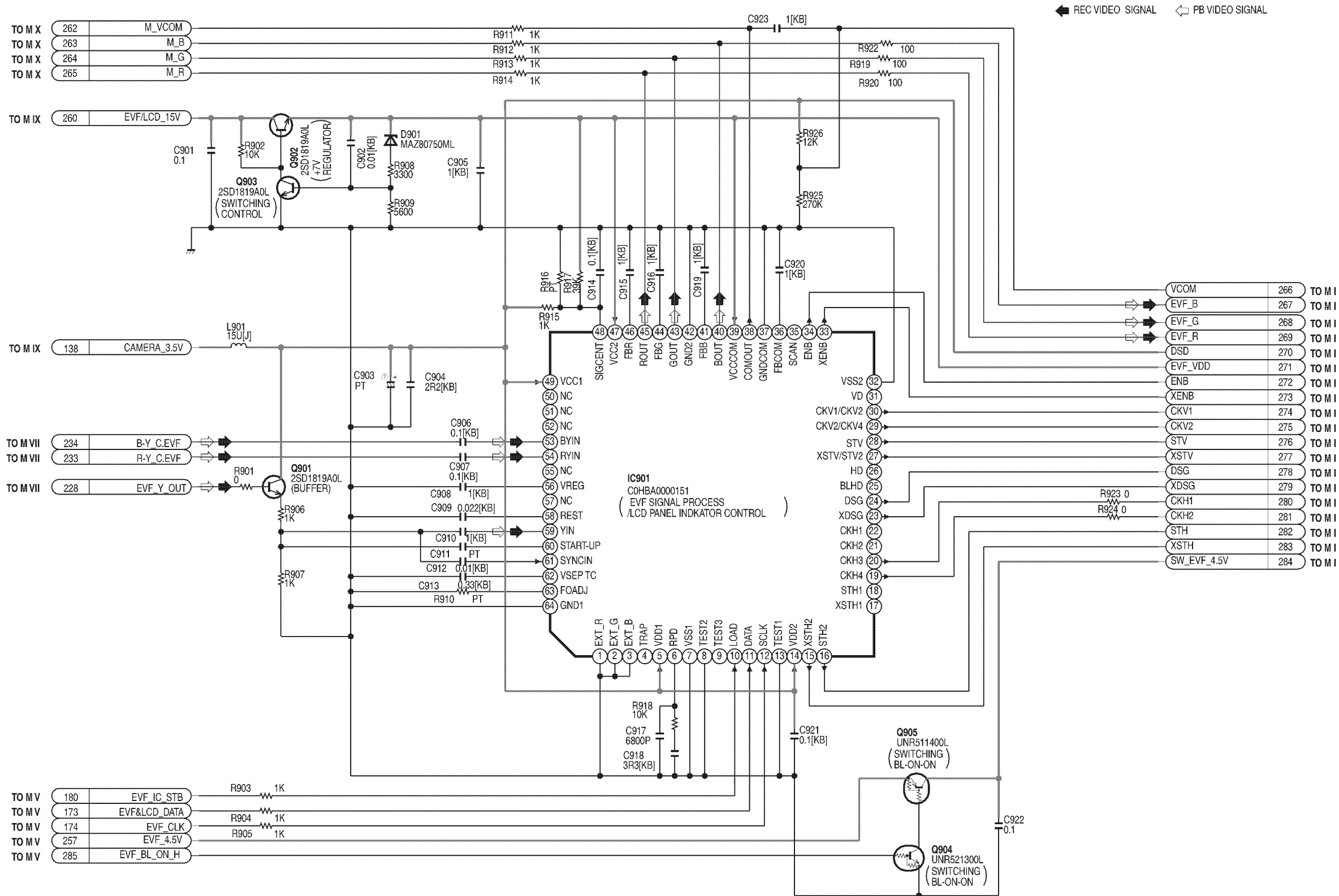


MAIN XI (EVF) SCHEMATIC DIAGRAM (C)

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

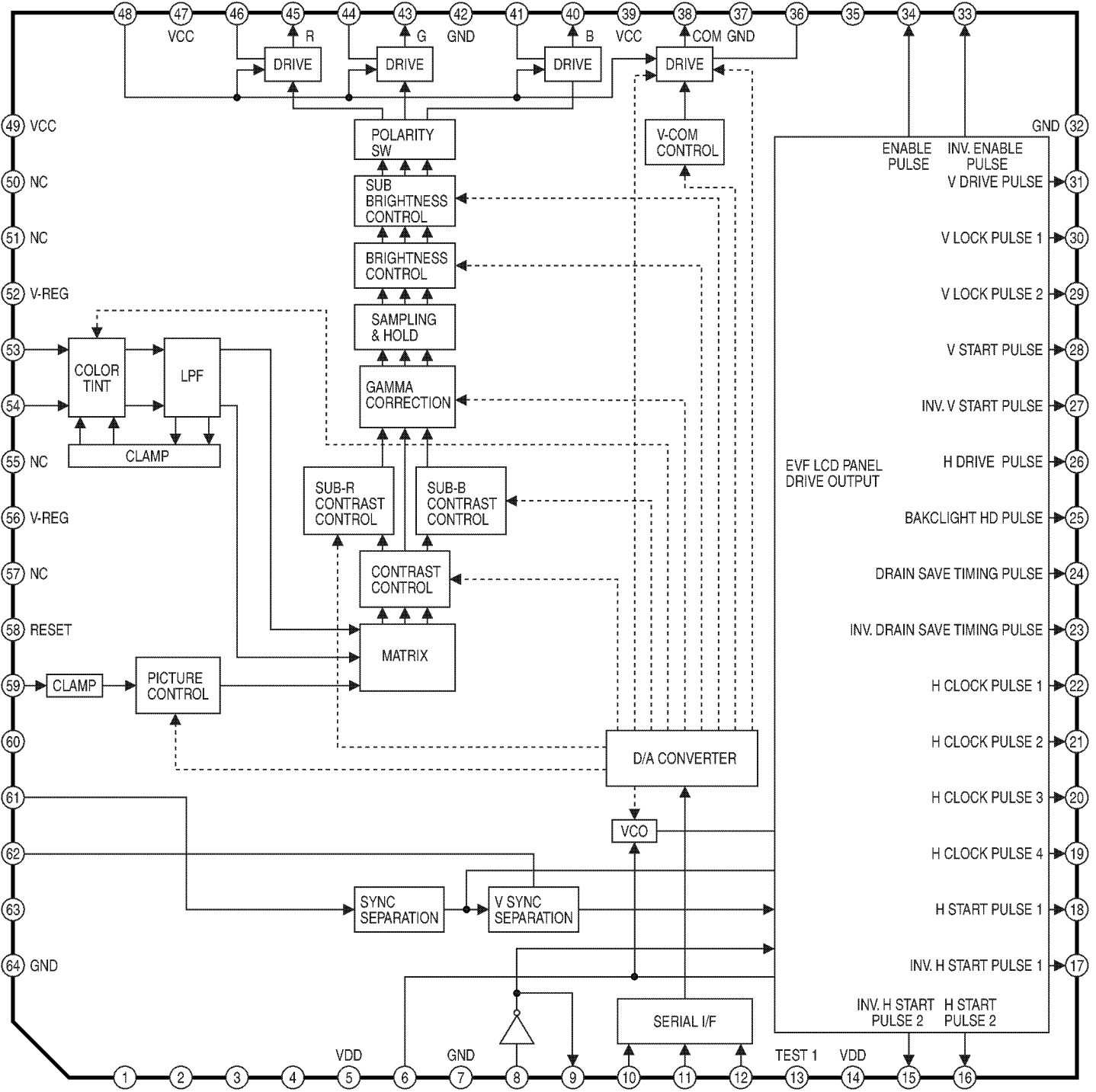
COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT



LINK TO VOLTAGE CHART

LSJB8290
MAIN XI (EVF) SCHEMATIC DIAGRAM
PV-L454

IC901 EVF SIGNAL PROCESS IC- DETAIL BLOCK DIAGRAM

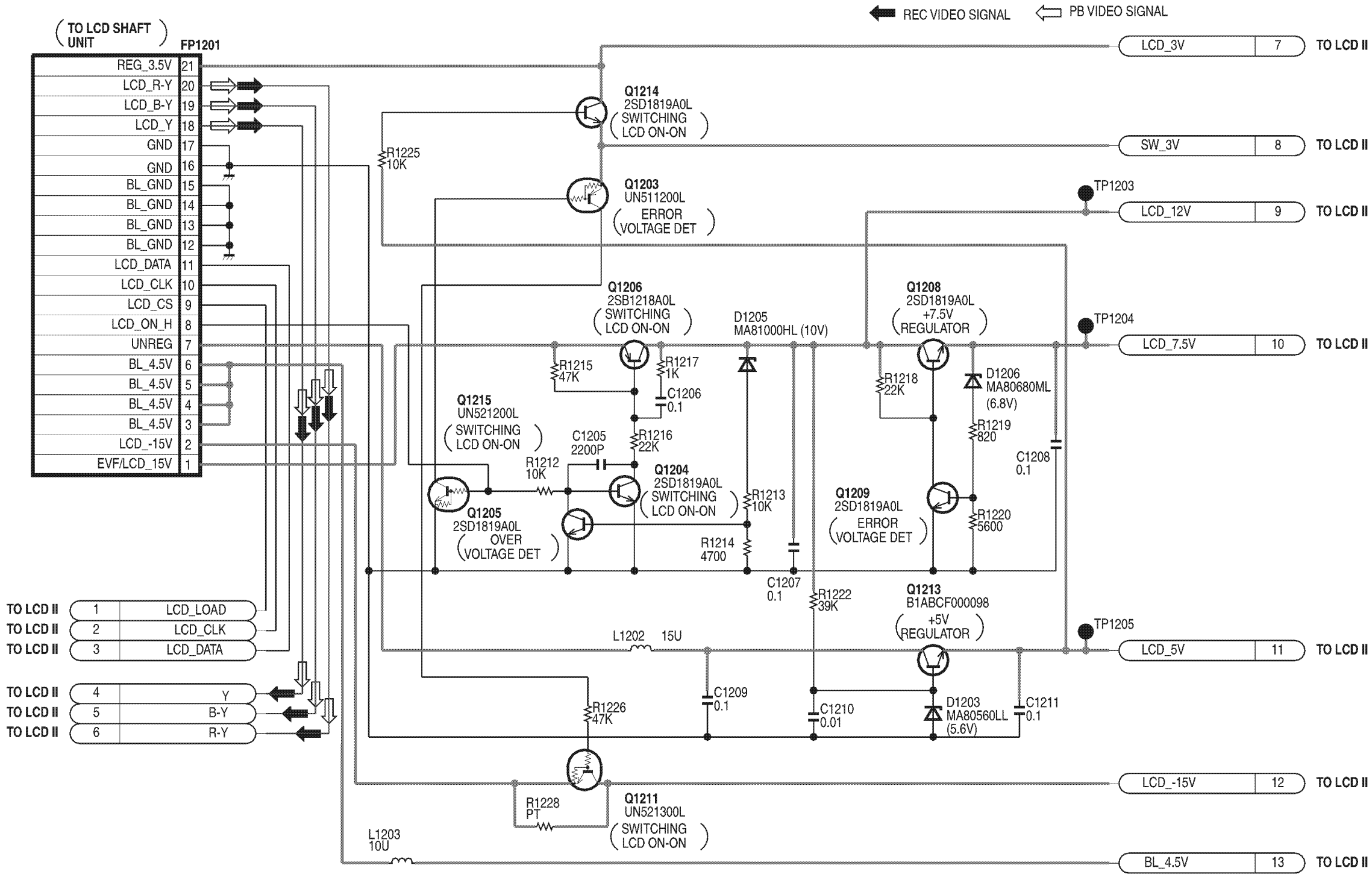


9.4. LCD SCHEMATIC DIAGRAMS

LCD I (LCD POWER) SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.



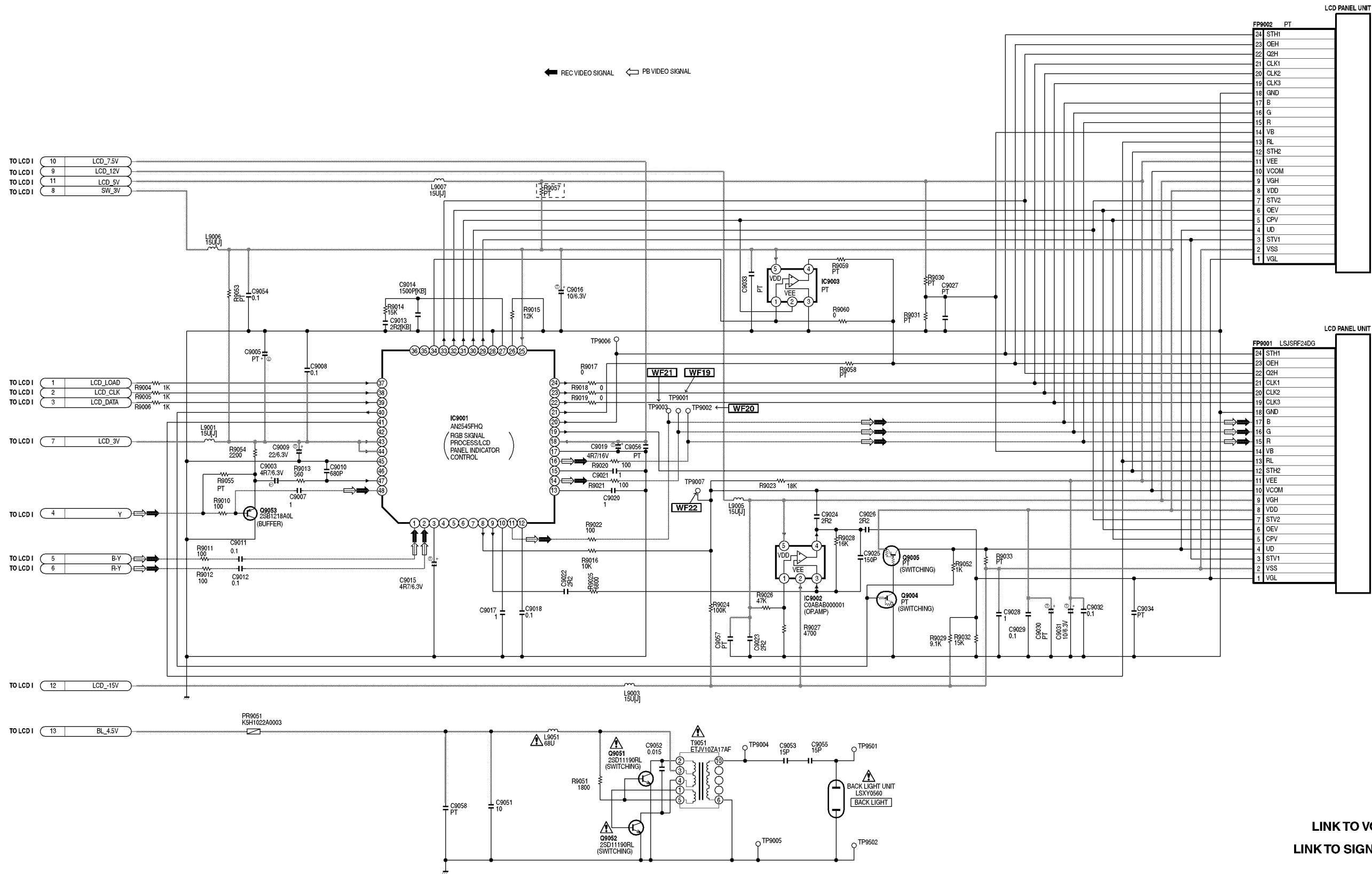
[LINK TO VOLTAGE CHART](#)

LCD II (LCD DRIVE) SCHEMATIC DIAGRAM

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN  HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

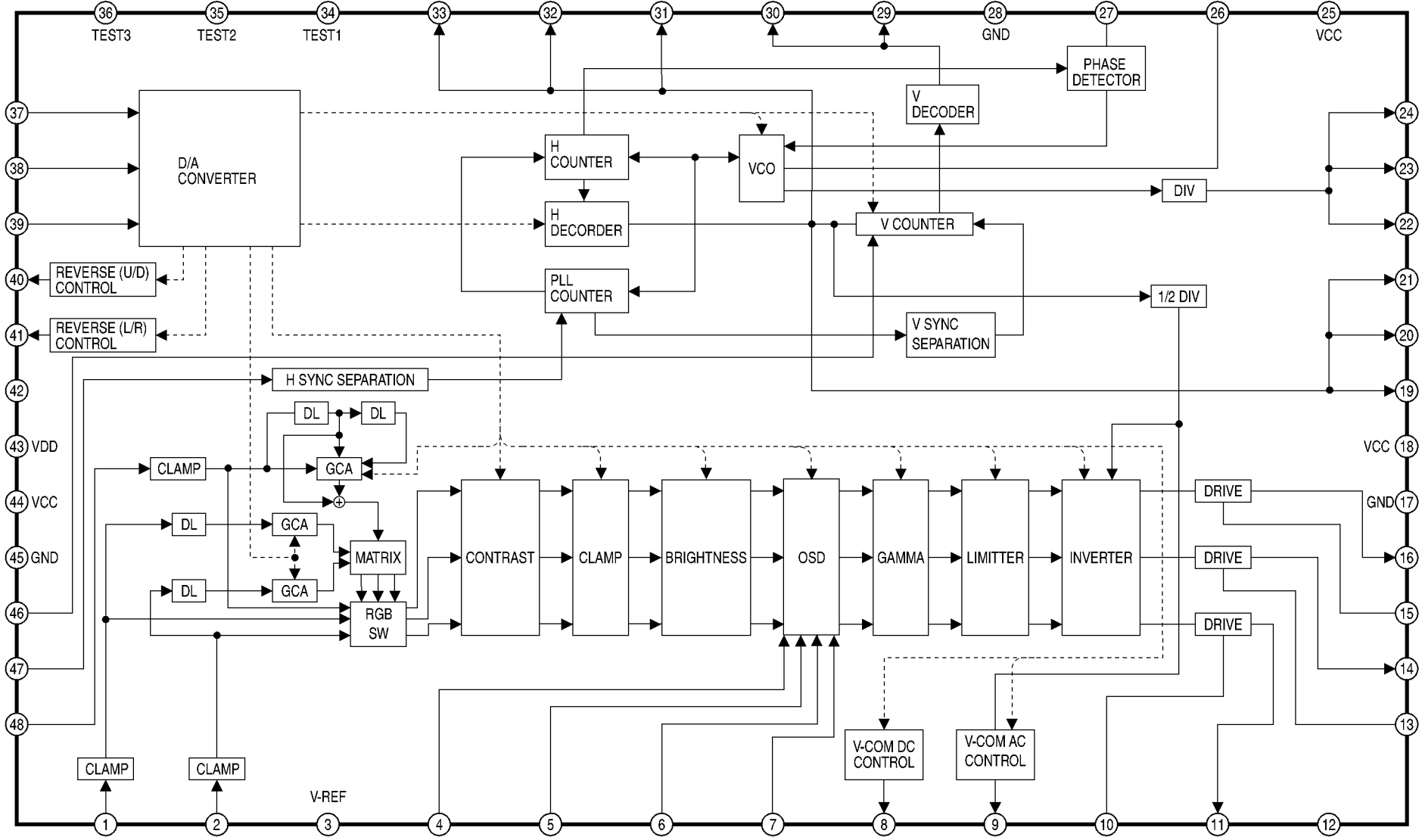


[LINK TO VOLTAGE CHART](#)

[LINK TO SIGNAL WAVEFORM](#)

LSJB8206
LCD II (LCD DRIVE) SCHEMATIC DIAGRAM
PV-L354/PV-L354-K/PV-L454

IC9001 RGB SIGNAL PROCESS/LCD PANEL INDICATOR CONTROL IC- DETAIL BLOCK DIAGRAM



9.5. BATTERY CATCHER SCHEMATIC DIAGRAM

BATTERY CATCHER SCHEMATIC DIAGRAM

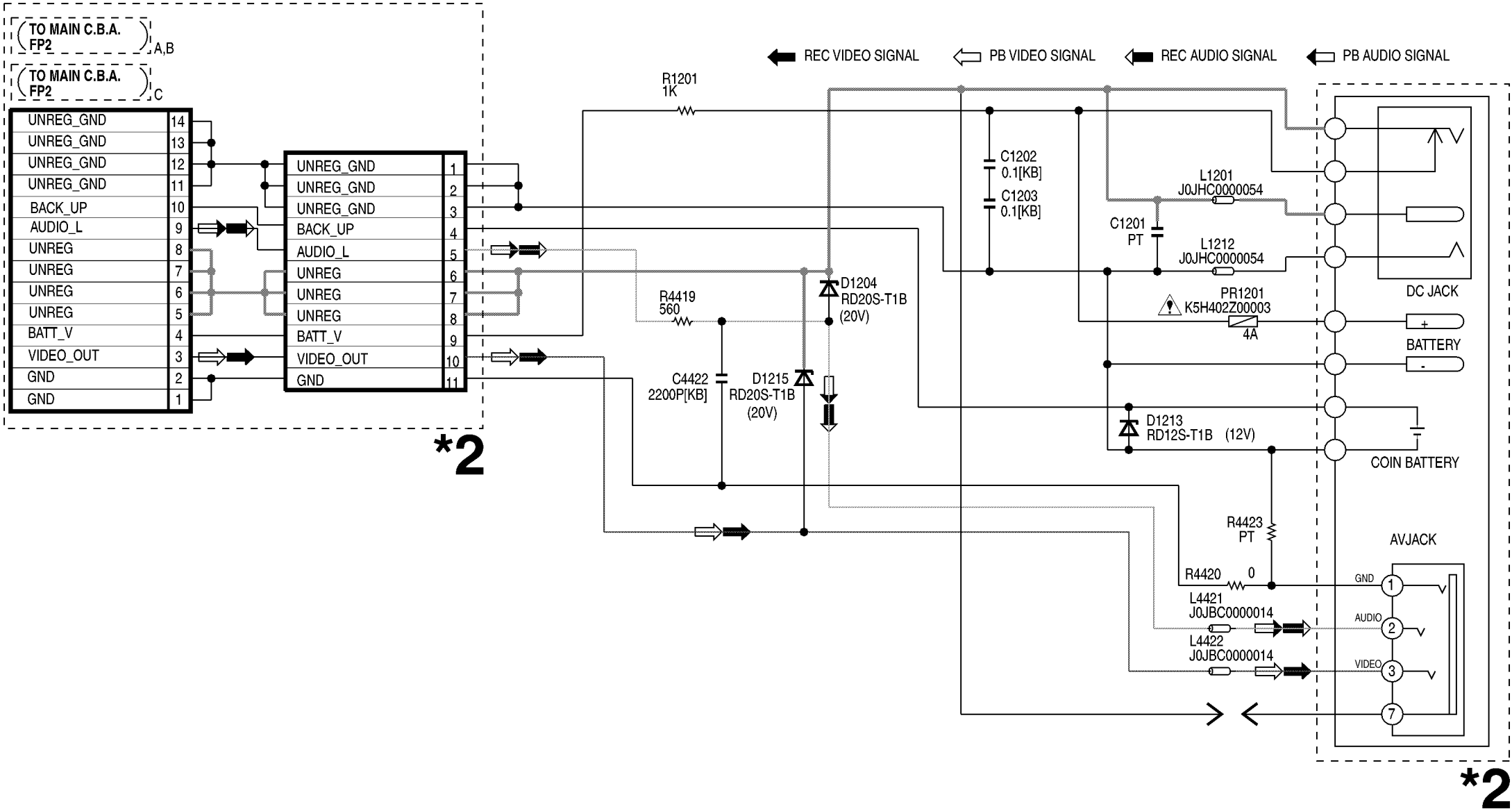
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT

*2 NOTE:
BATTERY CATCHER C.B.A. ARE SUPPLIED INDIVIDUALLY AS REPLACEMENT PARTS.
HOWEVER, ONLY THE PARTS ENCLOSED IN DASHED LINES ARE NOT SUPPLIED.
WHEN REPLACING THESE PARTS, REPLACE BATTERY CATCHER C.B.A. INSTEAD OF
INDIVIDUAL PARTS.



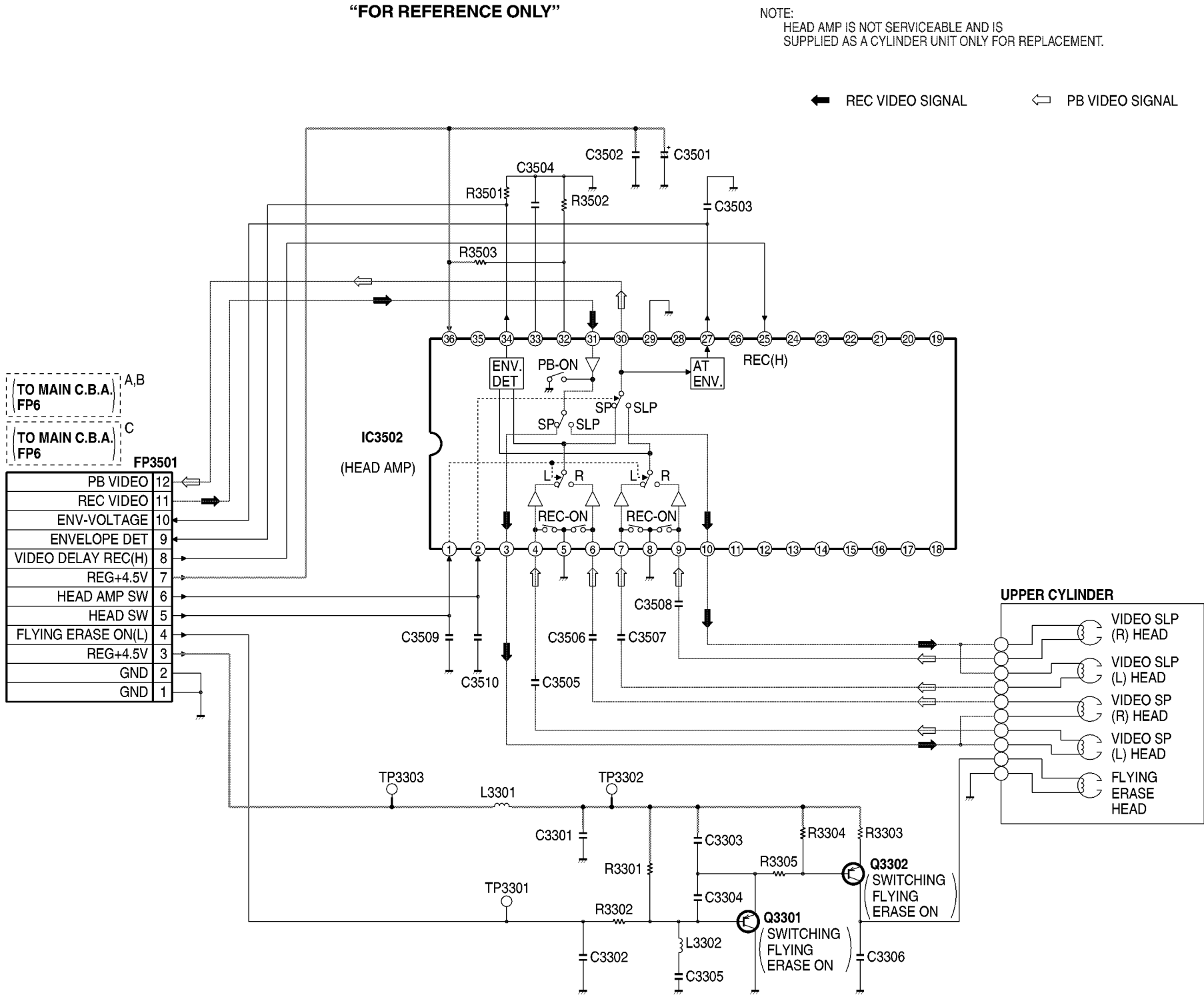
9.6. HEAD AMP SCHEMATIC DIAGRAM

HEAD AMP SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT



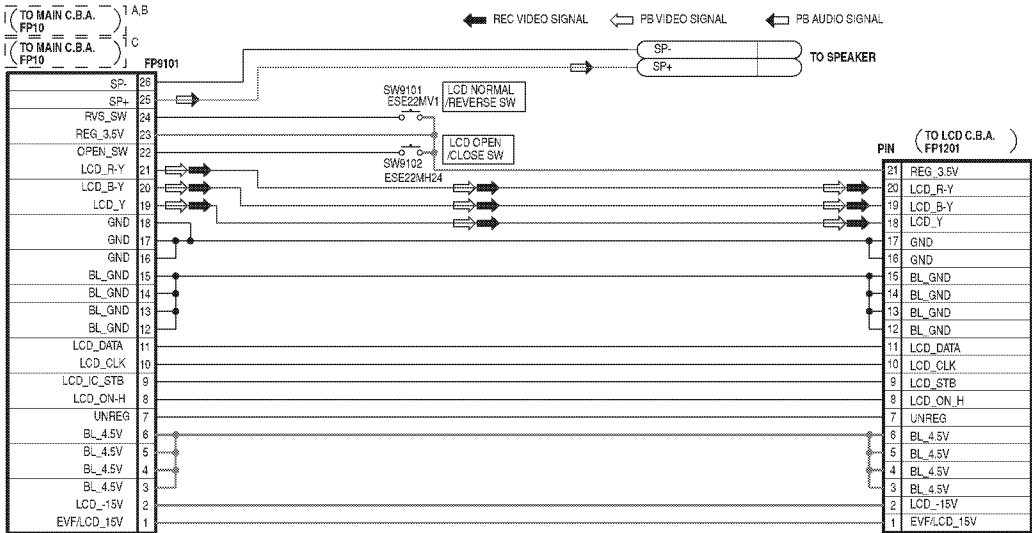
HEAD AMP SCHEMATIC DIAGRAM
PV-L354/PV-L354-K/PV-L454

9.7. LCD SHAFT UNIT/CCD/MICROPHONE UNIT SCHEMATIC DIAGRAMS

LCD SHAFT UNIT

“FOR REFERENCE ONLY”

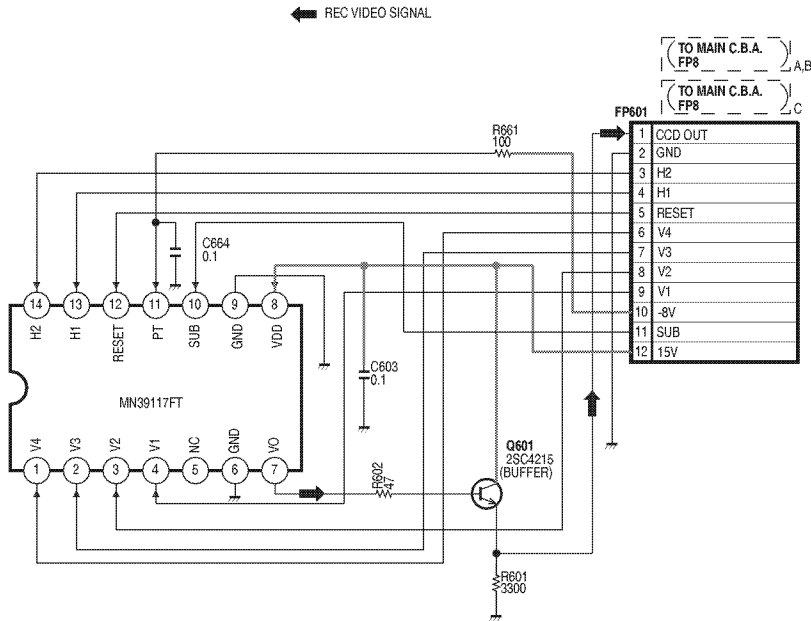
NOTE:
LCD SHAFT UNIT IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.



CCD C.B.A.

“FOR REFERENCE ONLY”

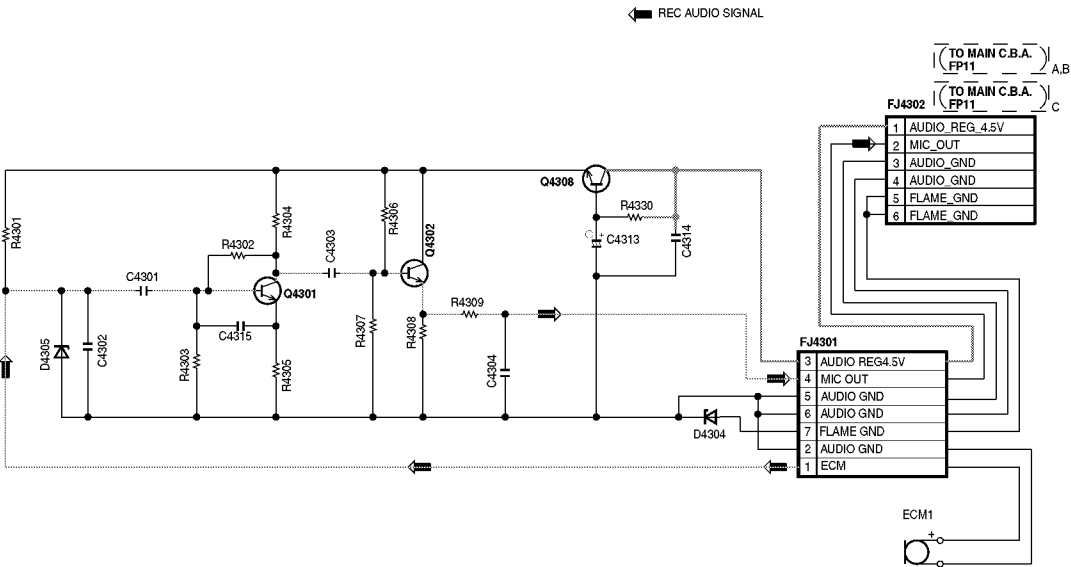
NOTE:
CCD C.B.A. IS NOT SERVICEABLE AND IS SUPPLIED
AS UNIT ONLY FOR REPLACEMENT.



MICROPHONE UNIT

“FOR REFERENCE ONLY”

NOTE:
MICROPHONE C.B.A. IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.



COMPARISON CHART
OF MODELS & MARKS

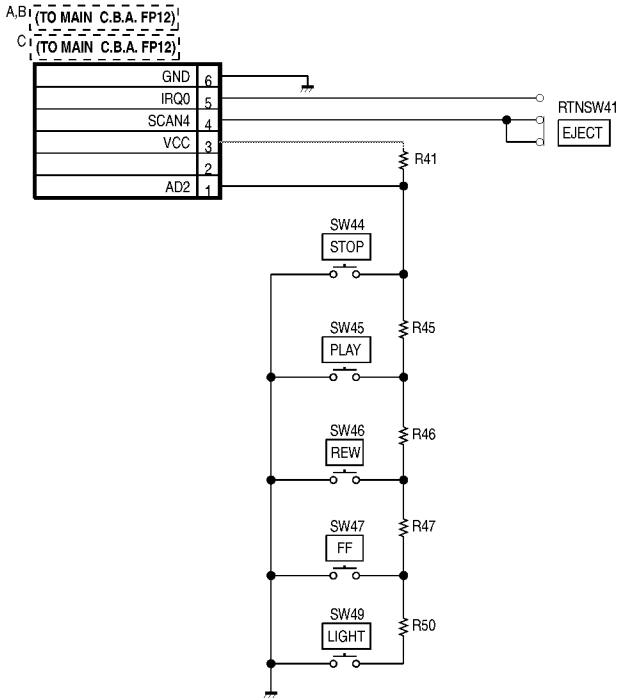
MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT

LCD SHAFT UNIT
MICROPHONE UNIT
CCD C.B.A.
PV-L354/PV-L354-K/PV-L454

9.8. TOP OPERATION UNIT/SIDE L OPERATION UNIT/MECHANISM FPC UNIT SCHEMATIC DIAGRAMS

TOP OPERATION UNIT

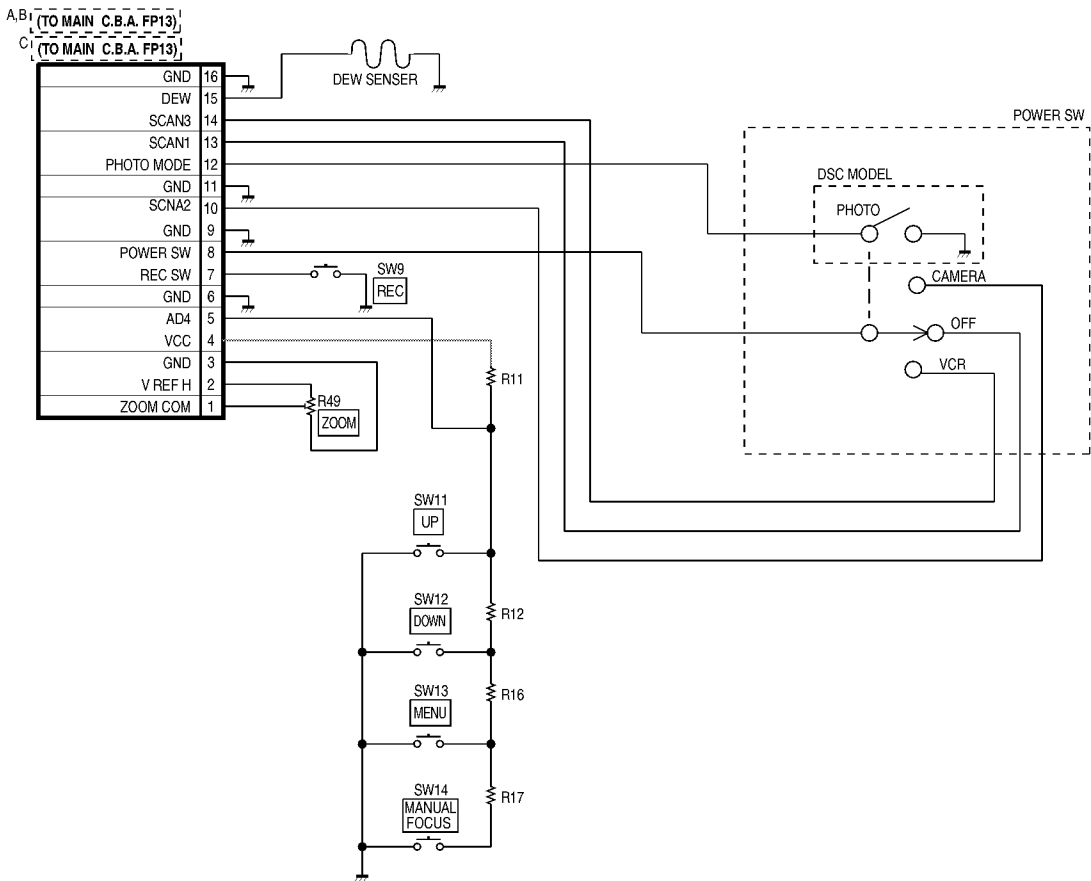
“FOR REFERENCE ONLY”



NOTE:
TOP OPERATION UNIT IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.

SIDE L OPERATION UNIT

“FOR REFERENCE ONLY”

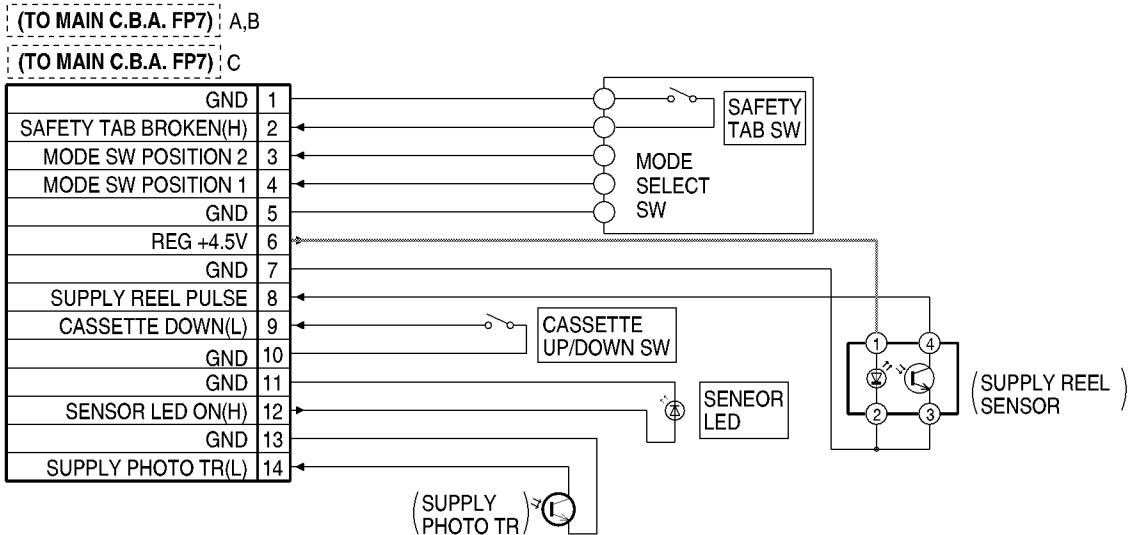


NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT

MECHANISM FPC UNIT

“FOR REFERENCE ONLY”

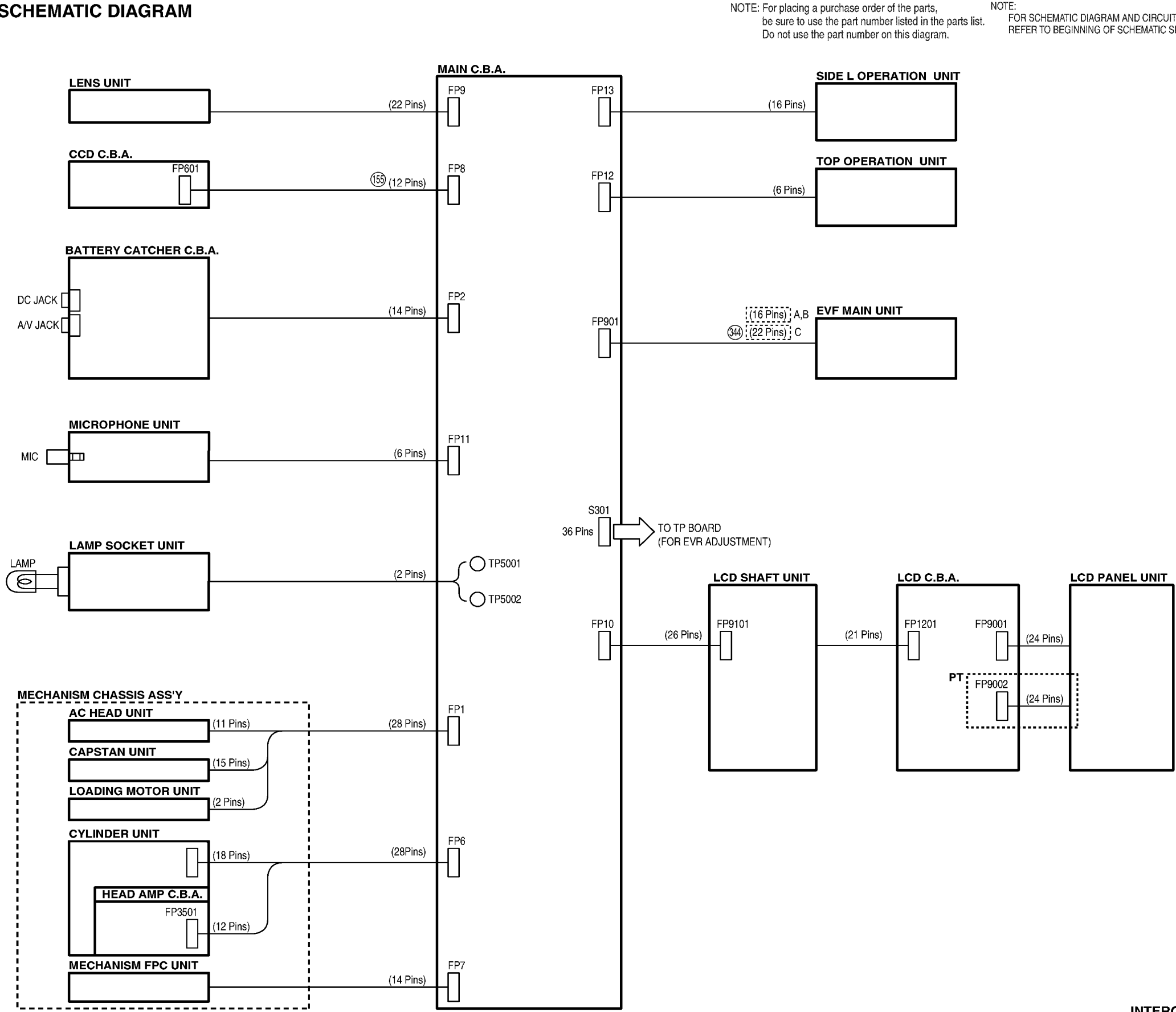


NOTE:
MECHANISM FPC UNIT IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.

TOP OPERATION UNIT
SIDE L OPERATION UNIT
MECHANISM FPC UNIT
PV-L354/PV-L354-K/PV-L454

9.9. INTERCONNECTION SCHEMATIC DIAGRAM

INTERCONNECTION SCHEMATIC DIAGRAM

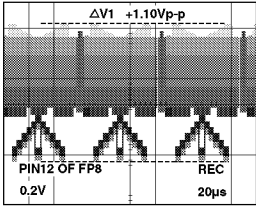


COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C
Not Used	PT

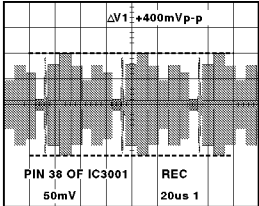
INTERCONNECTION SCHEMATIC DIAGRAM
PV-L354/PV-L354-K/PV-L454

9.10. SIGNAL WAVEFORMS

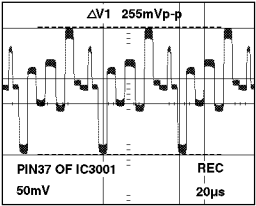
MAIN C.B.A.



WF1

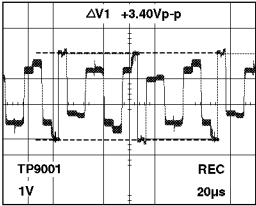


WF7

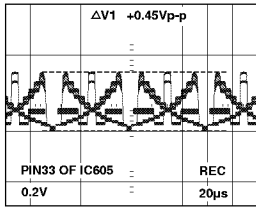


WF13

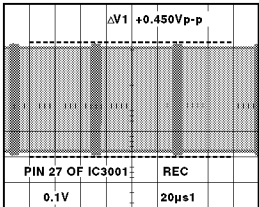
LCD C.B.A.



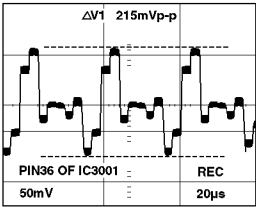
WF19



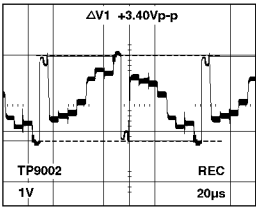
WF2



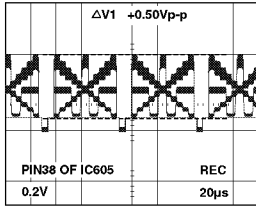
WF8



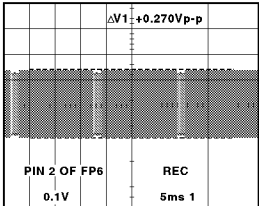
WF14



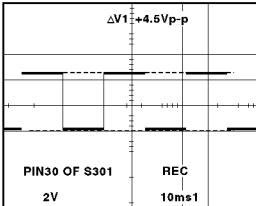
WF20



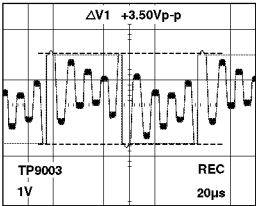
WF3



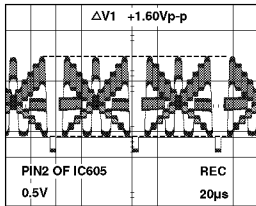
WF9



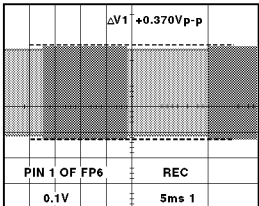
WF15



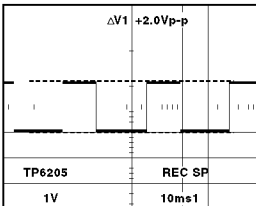
WF21



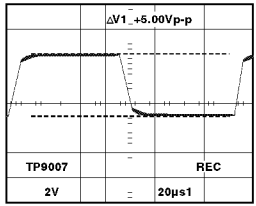
WF4



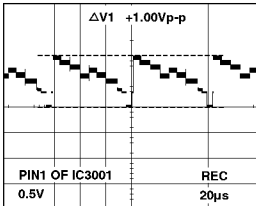
WF10



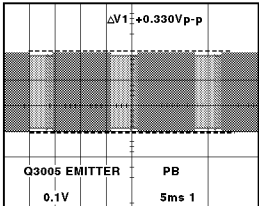
WF16



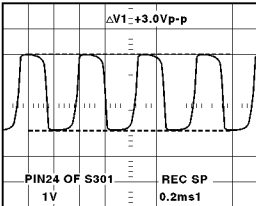
WF22



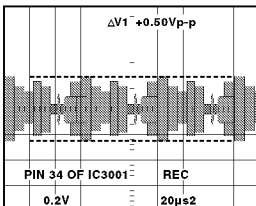
WF5



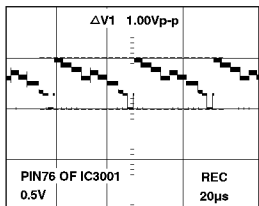
WF11



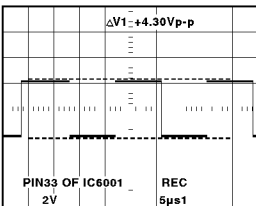
WF17



WF6



WF12



WF18

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

9.11. VOLTAGE CHART

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C

MAIN C.B.A. (CAMERA SECTION)

MODE PIN NO.	CAMERA
IC301	
1	0
2	3.5
3	0
4	3.5
5	3.5
6	2.7
7	1.6
8	0.9
9	3.3
10	0.2
11	0.1
12	0.2
13	0.2
14	3.5
15	0
16	3.5
17	1.8
18	1.7
19	0
20	3.5
21	0
22	1.6
23	0.1
24	0.1
25	0.7
26	3.5
27	3.5
28	3.4
29	3.4
30	0.2
31	0.2
32	3.5
33	0
34	0
35	1.8
36	1.5
37	0
38	3.5
39	1.6
40	0.4
41	0.5
42	3.5
43	0
44	0.4
45	0
46	3.5
47	1.7
48	1.4
49	3.5
50	0
51	3.5
52	0
53	---
54	---

MODE PIN NO.	CAMERA
55	---
56	0.2
57	0.1
58	---
59	---
60	0.1
61	0
62	0
63	3.5
64	3.5
65	0.1
66	0.1
67	0.1
68	0
69	0
70	---
71	---
72	---
73	0
74	3.5
75	---
76	1.9
77	---
78	0
79	4.1
80	0
81	0
82	1.7
83	0
84	0
85	0
86	1.7
87	0
88	---
89	1.7
90	---
91	3.2
92	3.5
93	3.5
94	1.8
95	0
96	0.1
97	---
98	0
99	1.9
100	0
101	0
102	0
103	3.5
104	0
105	0
106	---
107	---
108	---
109	3.5

MODE PIN NO.	CAMERA
110	0
111	1.4
112	2.0
113	0.1
114	3.5
115	0
116	3.6
117	0
118	1.4
119	2.6
120	0.4
121	1.4
122	0.6
123	2.6
124	1.4
125	3.6
126	0
127	3.5
128	0
129	---
130	---
131	---
132	---
133	---
134	---
135	---
136	1.2
137	0.1
138	0.9
139	1.0
140	1.2
141	1.2
142	1.4
143	0.7
144	0.1
IC306	
1	---
2	3.5
3	3.5
4	3.5
5	0.1
6	1.5
7	0
8	3.5
IC308	
1	0
2	3.5
3	0
4	0.3
5	3.5
6	3.5
7	0
8	2.5
9	---
10	2.7

MODE PIN NO.	CAMERA
11	1.6
12	0.8
13	3.5
14	0.1
15	0
16	---
17	---
18	0
19	3.1
20	2.1
21	1.3
22	3.5
23	2.6
24	0.2
25	1.2
26	1.0
27	0.1
28	0.1
29	0
30	0
31	3.4
32	0
33	---
34	3.5
35	---
36	1.8
37	0
38	---
39	0.2
40	0
41	3.5
42	0
43	---
44	---
45	3.5
46	3.5
47	3.5
48	3.5
49	0
50	0
51	0
52	0
53	0
54	---
55	3.5
56	0
57	0
58	3.5
59	3.5
60	0.8
61	0
62	0
63	0
64	---
65	0

MODE PIN NO.	CAMERA
66	0
67	0
68	0
69	3.4
70	3.4
71	3.5
72	0
73	3.5
74	0
75	3.4
76	1.7
77	0.6
78	0.1
79	0.1
80	0.1
81	0.1
82	0.1
83	0.1
84	0.1
85	0.1
86	---
87	3.5
88	0
89	0
90	---
91	---
92	---
93	3.0
94	1.7
95	0
96	2.7
97	0
98	0.3
99	3.5
100	0.1
IC309	
1	13.5
2	2.2
3	2.2
4	14.8
5	1.4
6	1.4
7	0.1
8	3.4
9	0.1
10	0.1
11	0
12	0.6
13	0.6
14	2.5
IC603	
1	-7.4
2	-7.8
3	-0.2
4	0

MODE PIN NO.	CAMERA
5	-0.4
6	3.5
7	0.1
8	3.5
9	0.1
10	3.4
11	---
12	3.4
13	0.3
14	3.3
15	0
16	14.7
17	-7.5
18	-7.5
19	0
20	14.7
IC605	
1	0
2	1.9
3	---
4	---
5	2.0
6	4.4
7	1.3
8	2.1
9	1.8
10	3.4
11	0.3
12	0
13	---
14	---
15	---
16	---
17	3.4
18	1.7
19	3.4
20	1.4
21	0.2
22	0.3
23	---
24	0.7
25	0.1
26	0
27	2.3
28	2.3
29	4.4
30	---
31	3.1
32	---
33	1.8
34	1.8
35	0
36	4.4
37	3.1
38	1.9

MODE PIN NO.	CAMERA
39	1.9
40	4.4
41	0
42	2.2
43	2.3
44	3.0
45	0.1
46	2.3
47	3.4
48	1.4
IC701	
1	0
2	0.2
3	---
4	1.2
5	1.2
6	0.2
7	0
8	0
9	0
10	0.3
11	0.3
12	0
13	0.3
14	7.1
IC702	
1	0
2	0.3
3	---
4	1.2
5	1.2
6	0
7	0
8	0
9	0
10	0.3
11	3.1
12	0
13	0.1
14	6.3
Q301	
E	2.5
C	4.5
B	3.1
Q302	
E	1.6
C	3.1
B	2.3
Q303	
E	1.8
C	0
B	1.2
Q305	
E	2.9

MODE PIN NO.	CAMERA
C	4.5
B	3.6
Q306	
E	2.2
C	0
B	2.9
Q307	
E	2.6
C	0
B	2.9
Q310	
E	2.8
C	4.5
B	2.4
Q311	
E	1.8
C	4.6
B	2.4
Q617	
E	1.1
C	4.5
B	1.8
Q703	
E	0
C	3.5
B	0
TP601	1.5
TP602	---
TP603	---

MAIN C.B.A.
(EVF SECTION) (A, B)

MODE PIN NO.	CAMERA
IC901	
1	0
2	0
3	0
4	3.5
5	1.8
6	0
7	0
8	3.5
9	0
10	0.1
11	3.5
12	0
13	---
14	---
15	0
16	---
17	3.5
18	0.1
19	1.7
20	1.7
21	0.2
22	0.1
23	1.8
24	3.2
25	0
26	---
27	---
28	---
29	0
30	3.3
31	8.6
32	1.7
33	0
34	3.6
35	1.6
36	4.3
37	3.6
38	8.6
39	3.5
40	3.5
41	---
42	2.1
43	2.0
44	2.2
45	1.9
46	0
47	0
48	0
Q901	
E	1.7
C	3.5
B	2.3
Q902	
E	8.6

MODE PIN NO.	CAMERA
C	14.9
B	9.2
Q903	
E	0
C	9.2
B	0.7
Q904	
E	0
C	1.0
B	0

MAIN C.B.A.
(EVF SECTION) (C)

MODE PIN NO.	CAMERA
IC901	
1	0
2	0
3	0
4	---
5	3.5
6	1.7
7	0
8	0
9	---
10	3.5
11	0
12	0.1
13	0
14	3.5
15	3.3
16	0.1
17	---
18	---
19	1.7
20	1.7
21	---
22	---
23	3.2
24	0.3
25	---
26	---
27	3.4
28	0.1
29	1.7
30	1.7
31	---
32	0
33	0.5
34	3.0
35	---
36	1.7
37	0
38	3.6
39	8.5
40	3.6
41	1.6
42	0
43	3.5
44	1.6
45	3.6
46	1.6
47	8.5
48	3.5
49	3.5
50	---
51	---
52	---
53	1.6
54	1.6

MODE PIN NO.	CAMERA
55	---
56	2.1
57	---
58	3.4
59	2.0
60	3.0
61	2.1
62	1.8
63	1.5
64	0
Q901	
E	1.8
C	3.5
B	2.4
Q902	
E	8.5
C	15.0
B	9.1
Q903	
E	0
C	9.1
B	0.7
Q904	
E	0
C	0.1
B	3.5
Q905	
E	4.6
C	4.5
B	0.1

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

MAIN C.B.A. (POWER SUPPLY/VIDEO/AUDIO SECTION)

MODE PIN NO.	STOP
IC1001	
1	5.5
2	7.1
3	6.6
4	1.5
5	1.6
6	1.6
7	1.6
8	1.6
9	1.5
10	1.6
11	1.6
12	0.9
13	7.1
14	7.1
15	0.5
16	1.4
17	0
18	0
19	0.2
20	7.0
21	7.1
22	7.1
23	4.2
24	2.0
25	0.7
26	1.6
27	0.1
28	0.2
29	0.1
30	--
31	1.6
32	--
33	6.3
34	7.0
35	5.4
36	6.5
37	7.0
38	6.5
IC3001	
1	2.2
2	--
3	4.1
4	0.1
5	2.0
6	4.5
7	2.2
8	0
9	2.0
10	2.1
11	0.4
12	0
13	1.5
14	2.1
15	3.9

MODE PIN NO.	STOP
16	0.4
17	2.1
18	2.1
19	2.5
20	2.1
21	2.0
22	3.0
23	4.0
24	3.2
25	2.9
26	0
27	3.2
28	4.5
29	2.7
30	0
31	2.4
32	3.0
33	0
34	3.4
35	-4.5
36	2.5
37	2.4
38	2.3
39	2.8
40	1.3
41	1.4
42	2.2
43	2.2
44	3.1
45	0.2
46	---
47	---
48	---
49	2.1
50	2.1
51	2.1
52	4.5
53	2.3
54	0
55	2.8
56	3.6
57	-4.5
58	3.0
59	0
60	4.4
61	0.5
62	2.2
63	4.5
64	4.5
65	0.2
66	0.7
67	0
68	3.6
69	2.1
70	4.5

MODE PIN NO.	STOP
71	4.6
72	1.6
73	1.8
74	0
75	0.2
76	2.1
77	0.2
78	0.1
79	2.4
80	2.1
IC3002	
1	2.2
2	0
3	4.5
4	3.0
5	0
6	2.6
7	1.7
8	2.8
9	4.5
10	0
11	2.5
12	2.6
13	2.9
14	0
15	2.5
16	4.5
17	0
18	2.4
19	2.6
20	2.3
IC4001	
1	2.1
2	0
3	2.1
4	0.7
5	2.1
6	2.1
7	2.9
8	0.1
9	---
10	0
11	0
12	---
13	2.6
14	4.5
15	---
16	4.6
17	2.1
18	2.1
19	0.2
20	0.2
21	3.5
22	0
23	0.2

MODE PIN NO.	STOP
24	0.1
25	2.1
26	1.8
27	0.7
28	0.9
29	2.0
30	0.2
31	0.7
32	2.0
33	---
34	2.1
35	2.1
36	2.1
37	2.1
38	1.9
39	2.1
40	2.1
41	---
42	4.6
43	4.0
44	0
45	0
46	2.1
47	1.6
48	4.6
Q1001	
E	7.1
C	7.1
B	0.1
Q1002	
E	0.1
C	0
B	0.1
Q1003	
E	2.0
C	0
B	1.4
Q1005	
E	7.1
C	4.6
B	6.6
Q1006	
1	0
2	7.2
3	3.7
4	3.5
5	3.5
Q1007	
E	7.1
C	3.6
B	6.8
Q1008	
E	7.1
C	4.7

MODE PIN NO.	STOP
B	6.6
Q1009	
1	7.2
2	6.8
3	0
4	6.4
5	6.4
Q1010	
E	7.1
C	0
B	7.1
Q1011	
E	6.8
C	7.2
B	7.2
Q1015	
E	7.1
C	7.1
B	7.8
Q1018	
E	0
C	-5.4
B	-0.6
Q1019	
E	-8.1
C	-15.2
B	-8.1
Q1101	
E	7.1
C	1.9
B	7.1
Q1102	
E	0
C	7.1
B	0
Q1103	
E	7.1
C	0
B	7.1
Q1105	
E	7.1
C	0
B	7.1
Q3003	
E	4.3
C	0
B	3.8
Q3004	
E	3.3
C	3.4
B	4.1
Q3005	
E	2.8
C	4.5
B	3.4

MODE PIN NO.	STOP
Q3027	
E	1.8
C	4.9
B	2.4
Q4001	
E1	3.5
C1	4.1
B1	4.5
E2	4.5
C2	3.9
B2	3.6
Q4002	
E	0
C	0.1
B	0.8
Q4003	
E	1.2
C	0
B	0.8
Q4005	
E	0
C	0.4
B	0.2
Q4006	
E	0
C	0
B	0
Q4007	
E	4.6
C	0
B	4.5
Q4008	
E	0
C	4.5
B	0.1
Q4009	
E	0
C	1.7
B	0.2
TP1001	4.6
TP1002	4.6
TP1003	15.0
TP1005	-7.9
TP1006	3.6
TP1007	4.7
TP1008	15.0
TP3001	1.0
TP3002	2.7
TP3003	0.2
TP3004	3.0
TP3005	3.2
TP3006	2.3
TP4001	1.3
TP4002	0

[illegible]

VOLTAGE CHART

PV-L354/PV-L354-K/PV-L454

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

MAIN C.B.A. (SYSTEM CONTROL/SERVO SECTION)

MODE PIN NO.	REC	PLAY
IC2001		
1	2.1	2.1
2	0.6	0.6
3	0.6	0.7
4	3.0	3.0
5	0	0
6	0.1	0.1
7	0.1	0.1
8	2.3	2.3
9	2.3	2.3
10	2.3	2.3
11	2.3	2.3
12	2.3	2.3
13	2.3	2.3
14	6.9	7.0
15	1.8	1.8
16	1.9	1.8
17	1.8	1.8
18	0.5	0
19	0.5	0
20	0.4	0.6
21	7.2	6.7
22	6.9	6.7
23	6.5	6.7
24	0.5	0.5
25	0.5	0.5
26	0.5	0.5
27	2.6	0.1
28	2.6	2.5
29	1.0	0.9
30	1.0	1.0
31	1.0	0.9
32	1.0	0.9
33	2.0	2.0
34	2.2	0
35	2.2	2.2
36	1.7	1.7
37	1.7	1.7
38	1.3	1.3
39	1.3	1.3
40	0.1	0.1
41	0.1	0.1
42	0	0
43	0.1	0
44	2.1	2.1
45	0.7	0.7
46	0.6	0.6
47	0.3	0.3
48	2.1	2.1
49	6.1	6.3
50	2.0	2.0
51	0	0
52	4.6	4.6
53	2.2	2.2
54	---	---

MODE PIN NO.	REC	PLAY
55	0.8	0.8
56	0	0
57	2.3	2.3
58	2.3	2.3
59	2.3	2.3
60	2.3	2.3
61	2.3	2.3
62	---	---
63	---	---
64	---	---
IC2002		
1	1.0	1.0
2	2.6	3.7
3	1.0	1.0
4	2.6	3.7
5	1.0	1.0
6	2.7	3.7
7	2.0	2.0
8	1.0	1.0
9	0.5	0.5
10	1.0	1.0
11	0.5	0.5
12	1.0	1.0
13	0.5	0.5
14	0.1	0.1
IC2003		
1	1.8	1.9
2	6.5	6.5
3	1.8	1.9
4	6.5	6.5
5	0.1	1.9
6	6.5	6.5
7	6.9	6.9
8	1.8	1.9
9	0.5	0.4
10	1.8	1.9
11	0.5	0.5
12	1.8	1.9
13	0.5	0.5
14	0.1	0.1
IC6001		
1	4.6	4.6
2	0	4.5
3	4.6	4.6
4	0	0.1
5	---	---
6	4.5	4.5
7	0.1	0.1
8	0.1	0.1
9	4.6	4.6
10	4.5	4.5
11	3.5	3.5
12	0.1	0.1
13	0.1	0.1
14	4.5	4.5

MODE PIN NO.	REC	PLAY
15	4.6	4.6
16	4.5	4.5
17	4.5	0
18	---	---
19	0.1	0.1
20	4.5	4.5
21	0.1	0.1
22	0	0
23	2.3	2.3
24	0.1	0.1
25	4.6	4.6
26	4.5	0
27	0.2	0.1
28	4.5	0
29	4.5	0
30	0.2	0.3
31	---	---
32	2.5	2.5
33	2.0	2.0
34	2.1	2.1
35	---	---
36	4.6	4.6
37	2.1	2.1
38	1.4	0
39	0	0
40	0.6	0.7
41	---	---
42	4.6	4.6
43	4.5	4.6
44	4.5	4.5
45	0	0
46	4.1	4.1
47	4.6	4.6
48	0	0
49	---	---
50	2.4	2.3
51	4.6	4.6
52	2.3	2.2
53	2.3	2.3
54	4.5	4.5
55	0	0
56	0	0.1
57	0	0
58	0.5	0.5
59	0	0
60	0.3	0.3
61	0	0
62	---	---
63	---	---
64	0	0
65	2.2	2.2
66	0.8	0.8
67	2.3	2.3
68	2.3	2.3
69	2.3	2.3

MODE PIN NO.	REC	PLAY
70	2.3	2.3
71	0	0
72	2.2	2.2
73	4.6	4.6
74	2.7	2.3
75	2.0	2.3
76	2.3	2.2
77	4.6	4.6
78	0	0
79	2.5	2.5
80	---	---
81	4.6	4.6
82	4.6	4.6
83		
84	4.6	4.6
85	4.1	4.1
86	4.4	0.1
87	---	---
88	0.1	0.1
89	2.2	0.1
90	4.2	0.1
91	0.3	0.3
92	4.6	4.6
93	---	---
94	4.6	2.0
95	4.6	4.6
96	4.6	4.6
97	4.6	4.6
98	2.3	2.3
99	---	---
100	0.1	0.1
IC6002		
1	4.6	4.6
2	4.6	4.6
3	---	---
4	0	0
IC6005		
1	0.8	0.8
2	0.9	0.9
3	1.0	0.8
4	0	0
5	0.2	0.2
6	4.5	4.5
7	4.5	4.5
8	4.3	4.3
IC6006		
1	0	0
2	7.0	7.0
3	4.6	4.6
IC6007		
1	2.1	2.0
2	7.0	7.0
3	7.0	7.0
4	0.1	0
5	0.1	0.1

MODE PIN NO.	REC	PLAY
6	0.1	4.6
7	1.8	0
8	0	0
IC6203		
1	1.2	1.2
2	0	0
3	0	0
4	4.2	4.4
Q6004		
E	4.5	4.5
C	4.5	0
B	3.9	4.6
Q6008		
E	0	0
C	0	4.5
B	4.5	0
Q6010		
E	0	0
C	0.1	0.1
B	4.5	4.5
Q6012		
E	0	0
C	4.5	4.5
B	0	0
Q6013		
E	0.4	0.4
C	7.0	7.0
B	0	0
Q6021		
E	7.0	7.0
C	7.0	0
B	0	6.3
TP5001	0	0
TP5002	0	0
TP5003	1.8	0
TP5004	2.1	2.0
TP6001	0.8	0
TP6003	0.1	0.1
TP6006	4.5	0
TP6007	---	---
TP6010	4.6	4.6
TP6011	4.5	---
TP6012	4.6	4.6
TP6020	4.1	4.1
TP6021	3.1	3.1
TP6022	3.1	3.1
TP6023	0	0
TP6205	2.1	2.3
TP6206	2.0	2.3
TP6208	0.8	0.8
TP6210	2.2	2.2
TP6212	0.9	1.8
TP6215	0	0

MODE PIN NO.	REC	PLAY
TP6216	0.2	4.6
TP6217	2.2	2.0
TP6220	1.0	0.9

10 CIRCUIT BOARD LAYOUT

10.1. MAIN C.B.A. (Models: PV-L354/PV-L354-K)

MAIN C.B.A. LSEP8257A1 (A) / LSEP8257B1 (B)

*1 NOTE

TO DEFEAT THE SAFETY FUNCTION, CONNECT A DIODE BETWEEN TP6011 AND TP6012, OR SELECT THE H. SAFETY DEFEAT IN SERVICE MODE. REFER TO NOTE1 OF "EXTENSION CABLES FOR SERVICE" IN SERVICE NOTES SECTION FOR MORE INFORMATION.

(COMPONENT SIDE)

NOTE:

CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:

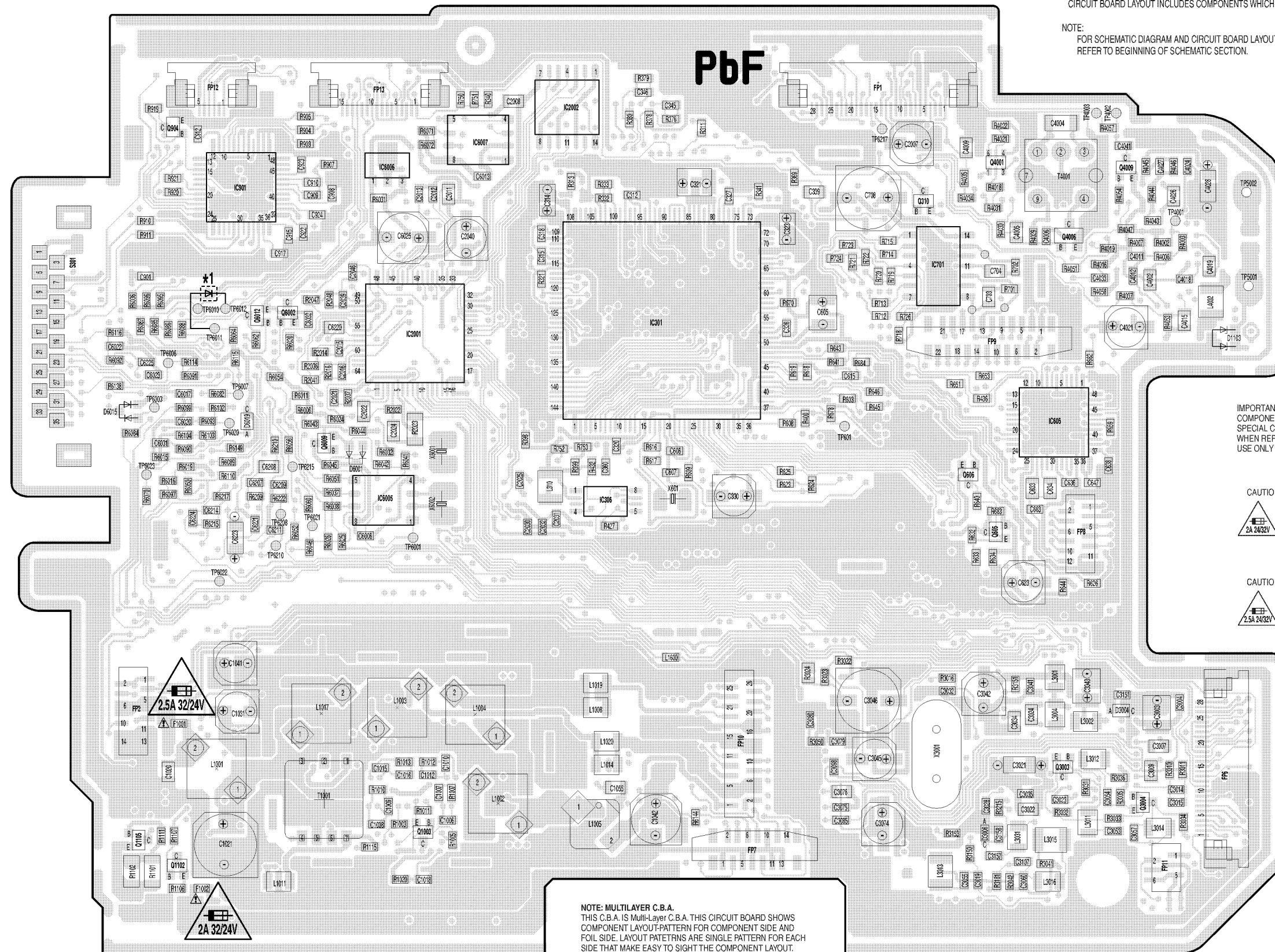
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

NOTE:

FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

**CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 2A 24/32V FUSE.**
**ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D'INCENDIE N'UTILISER QUE DES FUSIBLES DE MÊME
TYPE 2A 24/32V**

**CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 2.5A 24/32V FUSE.**
**ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D'INCENDIE N'UTILISER QUE DES FUSIBLES DE MÊME
TYPE 2.5A 24/32V**

NOTE: MULTILAYER C.B.A.
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATETRNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

MAIN C.B.A.
LSEP8257A1/LSEP8257B1
PV-L354/PV-L354-K

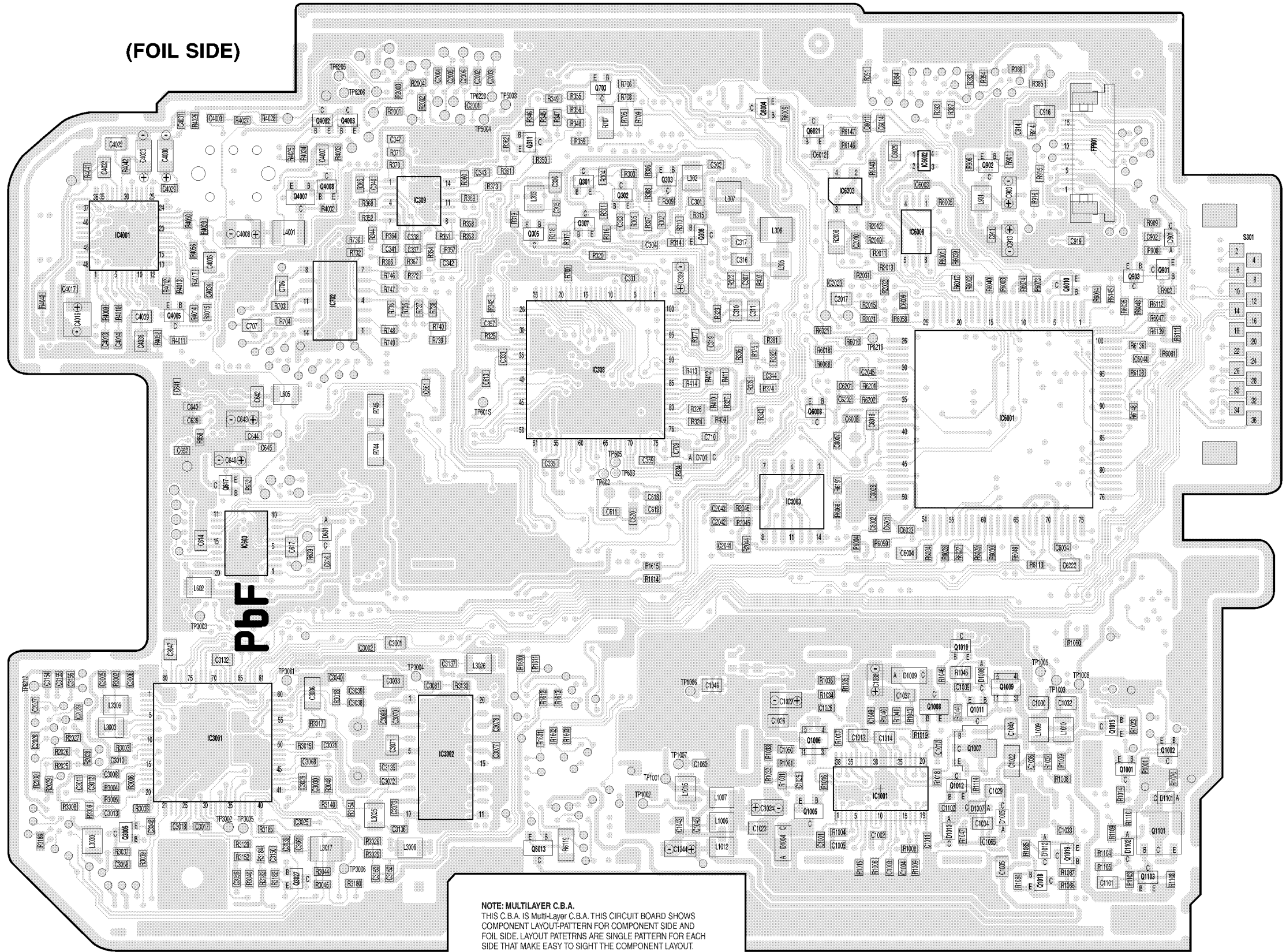
MAIN C.B.A. LSEP8257A1 (A) / LSEP8257B1 (B)

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE: CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C



NOTE: MULTILAYER C.B.A.
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATTERNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

MAIN C.B.A.
LSEP8257A1/LSEP8257B1
PV-L354/PV-L354-K

***1 NOTE**
TO DEFEAT THE SAFETY FUNCTION, CONNECT A DIODE BETWEEN TP6011 AND TP6012, OR SELECT THE H. SAFETY DEFEAT IN SERVICE MODE. REFER TO NOTE1 OF "EXTENSION CABLES FOR SERVICE" IN SERVICE NOTES SECTION FOR MORE INFORMATION.

(COMPONENT SIDE)

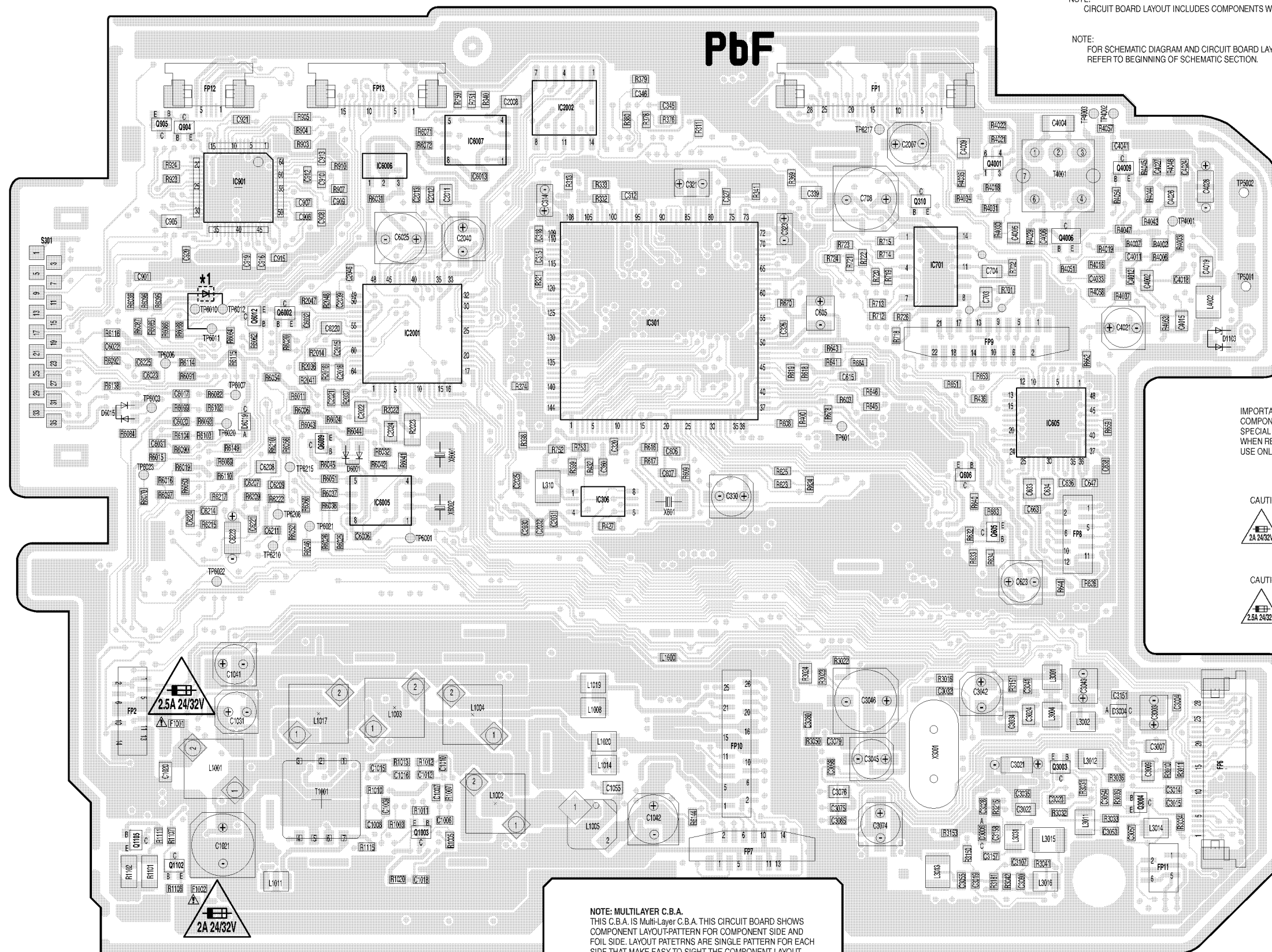
NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN  HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 2A 24/32V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D'INCENDIE N'UTILISER QUE DES FUSIBLE DE MÊME
TYPE 2A 24/32V

**CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 2.5A 24/32V FUSE.**
**ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D'INCENDIE N'UTILISER QUE DES FUSIBLE DE MÊME
TYPE 2.5A 24/32V**

NOTE: MULTILAYER C.B.A.
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS
COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND
FOIL SIDE. LAYOUT PATETRNS ARE SINGLE PATTERN FOR EACH
SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

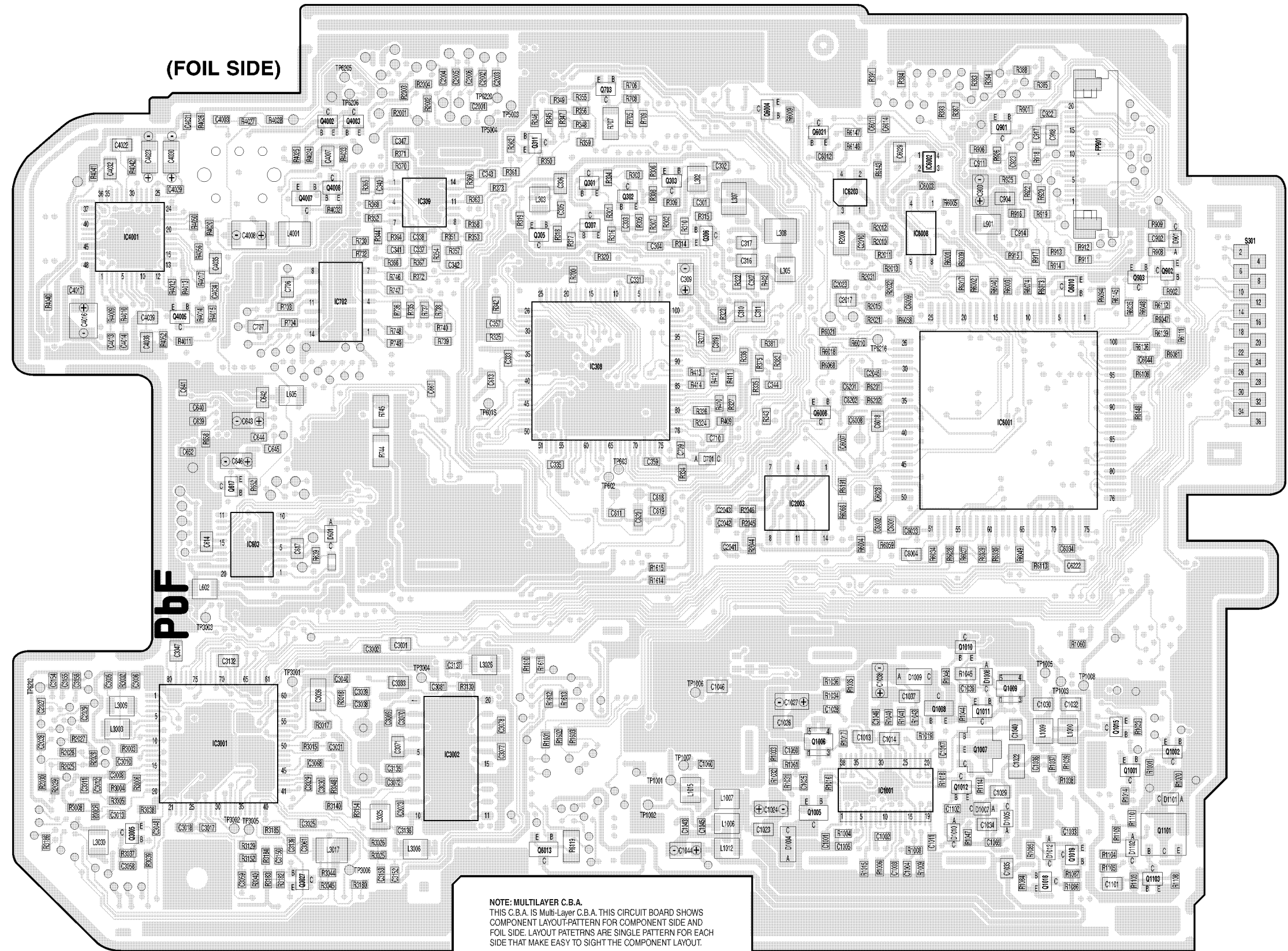
LSJB8290

MAIN C.B.A. LSEP8290A1
PV-L454

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C



NOTE: MULTILAYER C.B.A.
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATTERNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

LSJB8290

MAIN C.B.A. LSEP8290A1
PV-L454

10.3. LCD C.B.A.

LCD C.B.A. LSEP8206D1

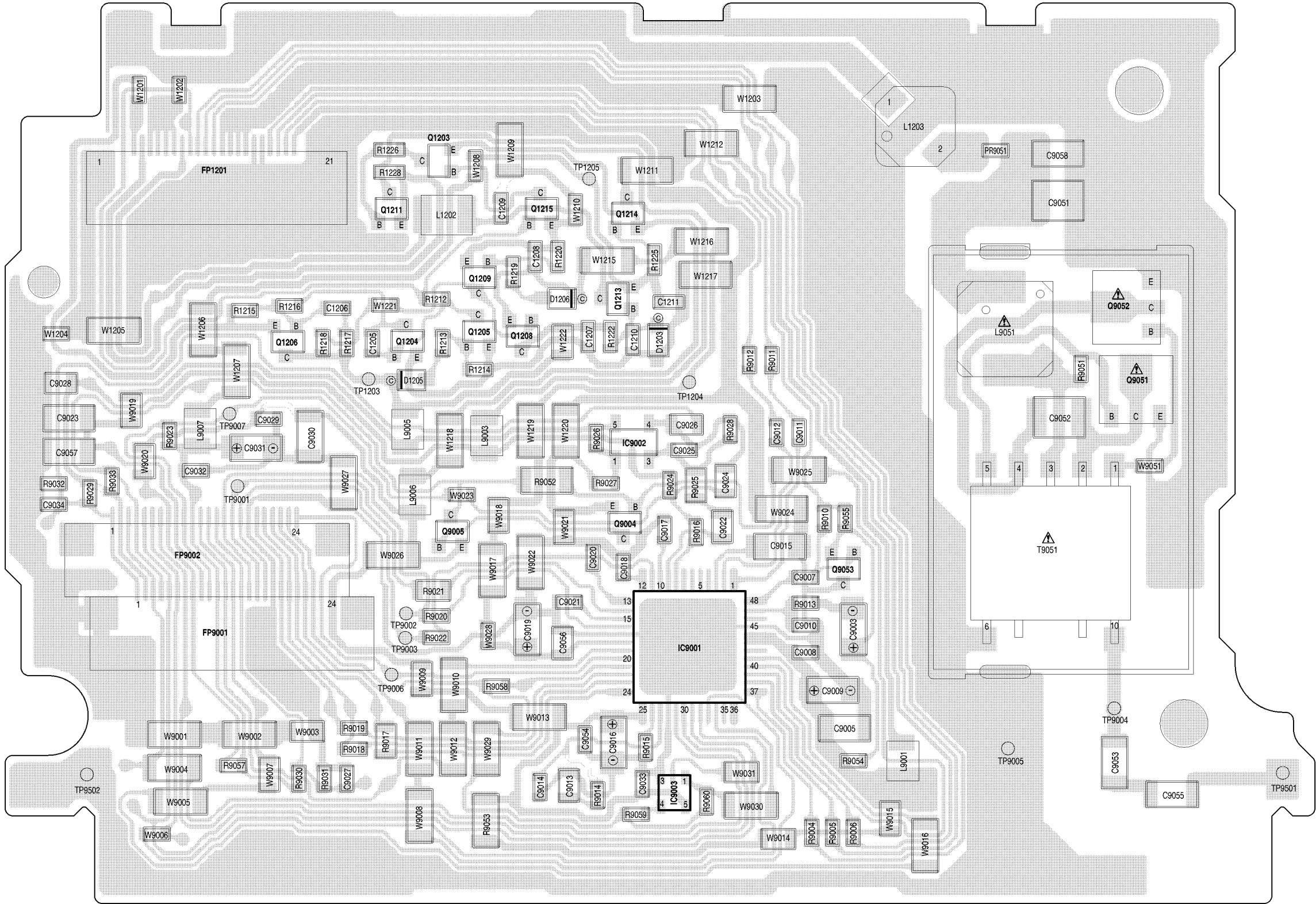
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

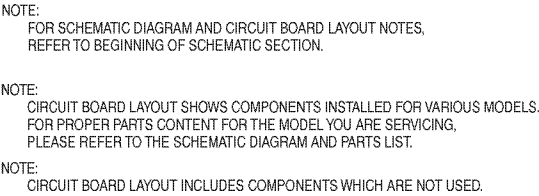
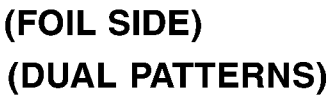
NOTE:
Some resistors on LCD C.B.A. have Ref. Nos. for wire.
These resistors are not discribed on Schematic Diagram.
When servicing these resistors, please refer to Replacement Parts Lists.



LSJB8206

LCD C.B.A. LSEP8206D1
PV-L354/PV-L354-K/PV-L454

(COMPONENT SIDE)
(DUAL PATTERNS)



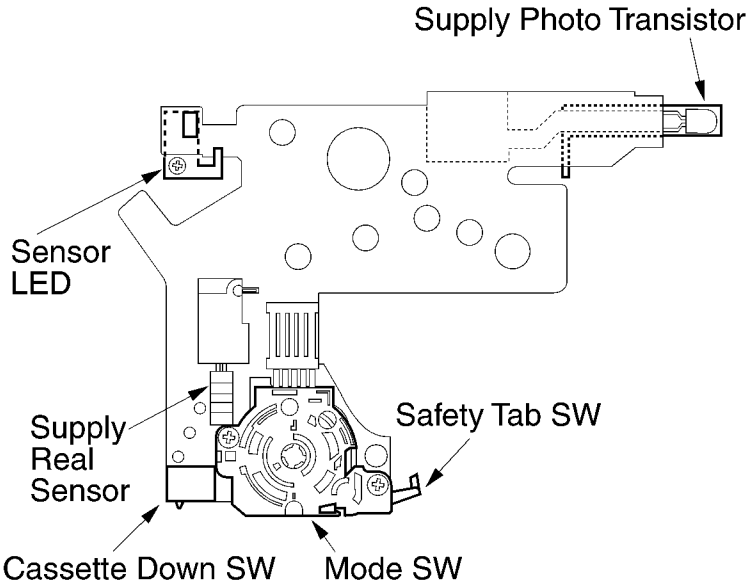
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN  HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

10.5. MECHANISM FPC UNIT

MECHANISM FPC UNIT

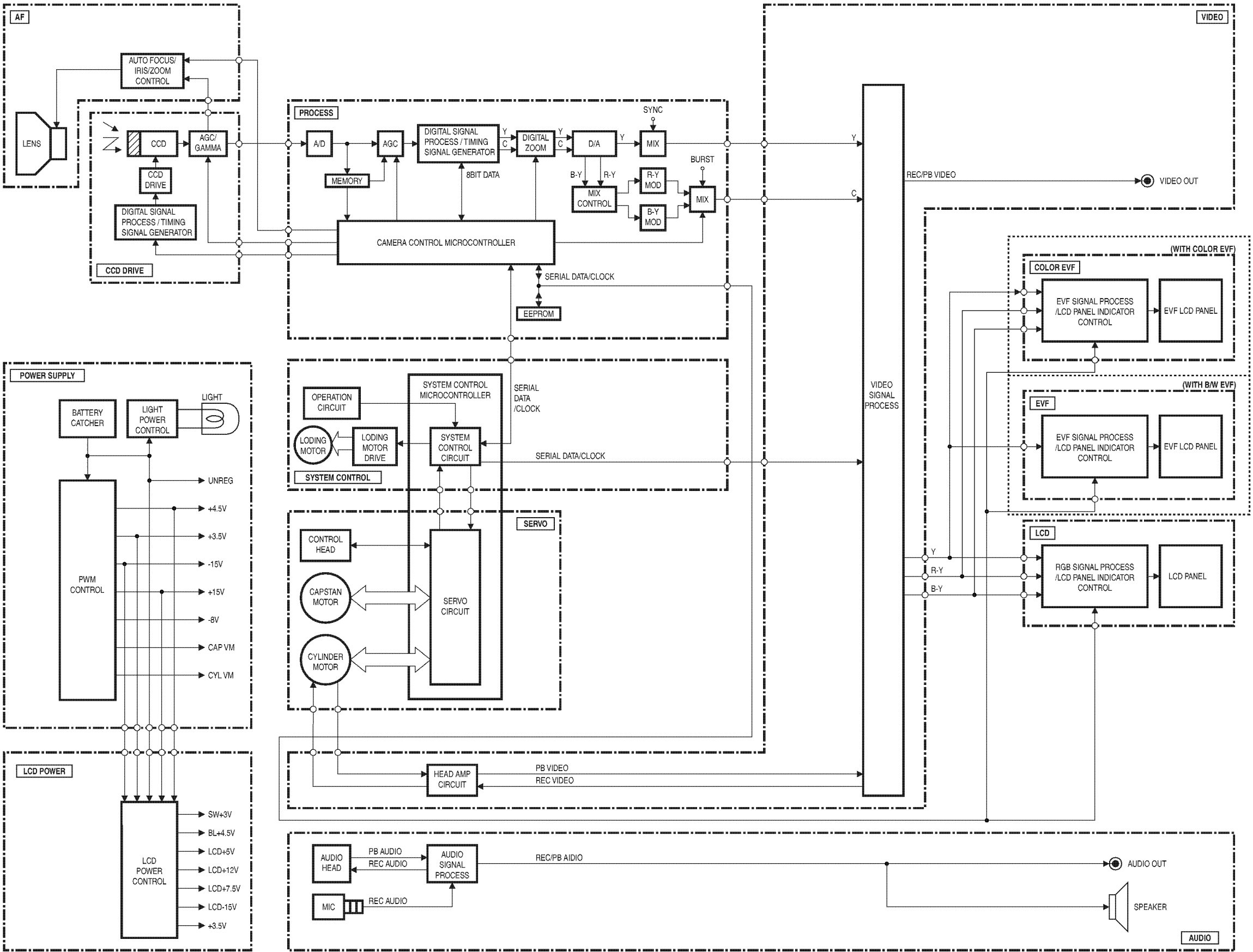
NOTE:
MECHANISM FPC UNIT IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.



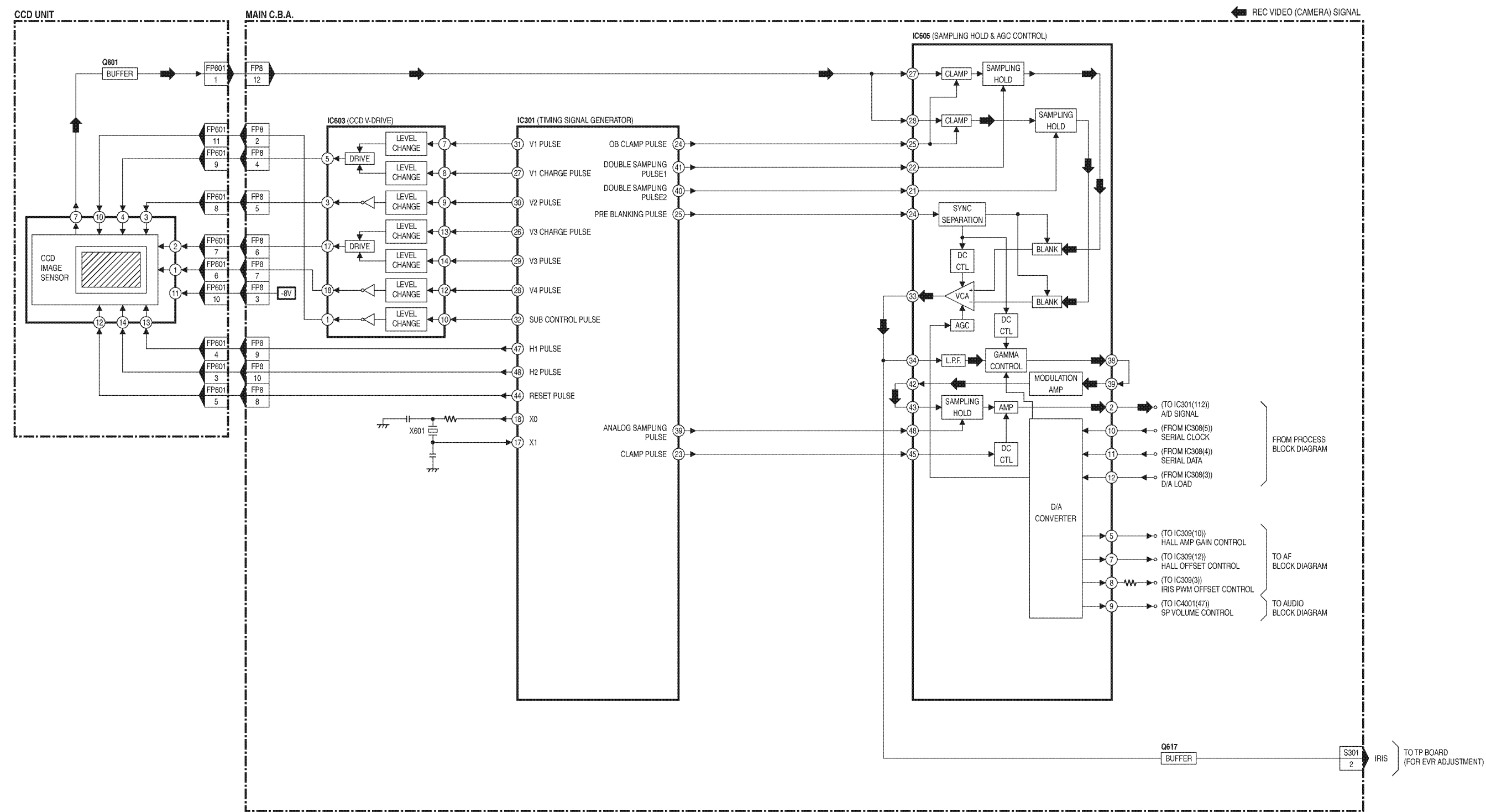
11 BLOCK DIAGRAMS

OVERALL BLOCK DIAGRAM



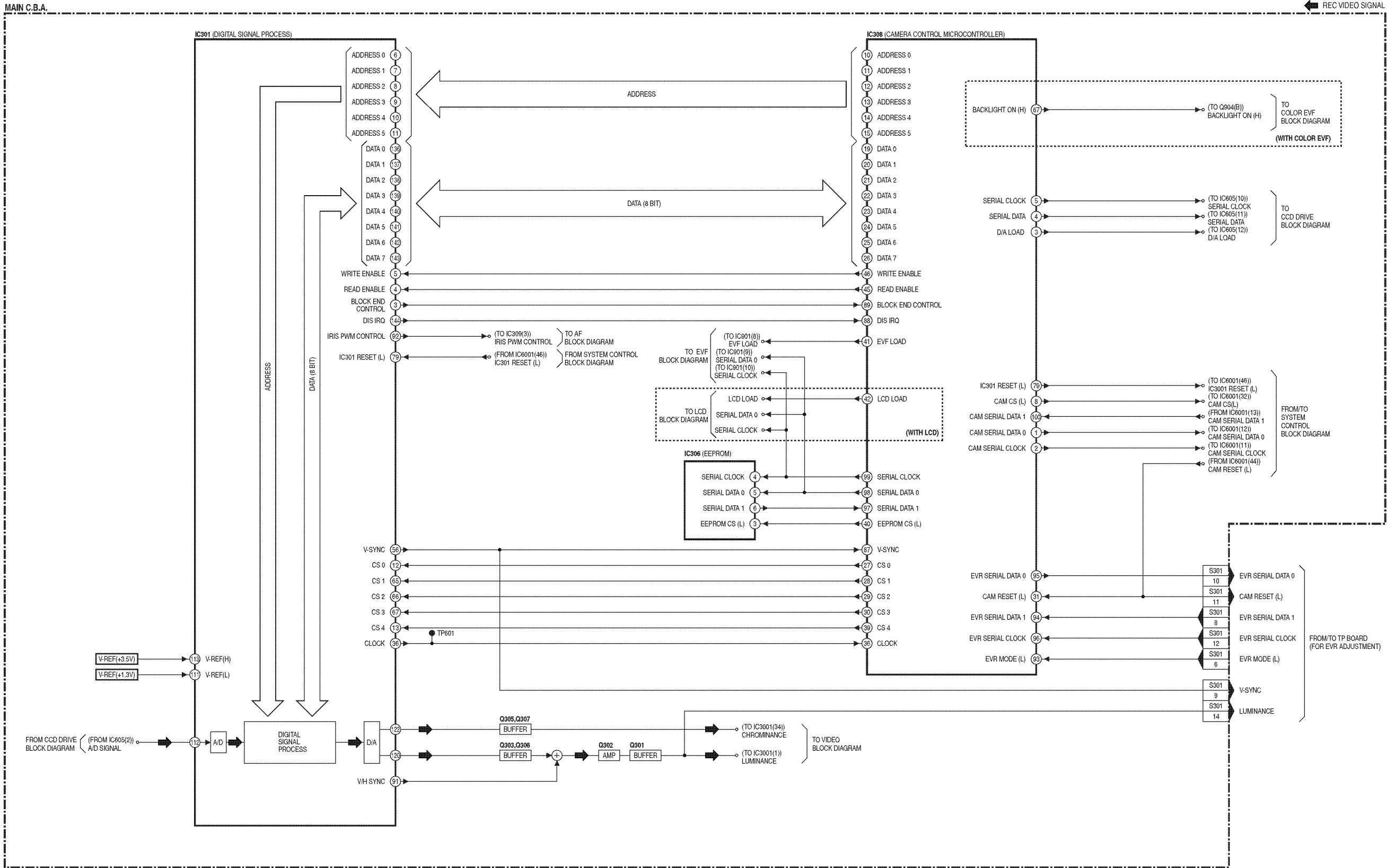
OVERALL BLOCK DIAGRAM
PV-L354/PV-L354-K/PV-L454

CCD DRIVE BLOCK DIAGRAM



CCD DRIVE BLOCK DIAGRAM
PV-L354/PV-L354-K/PV-L454

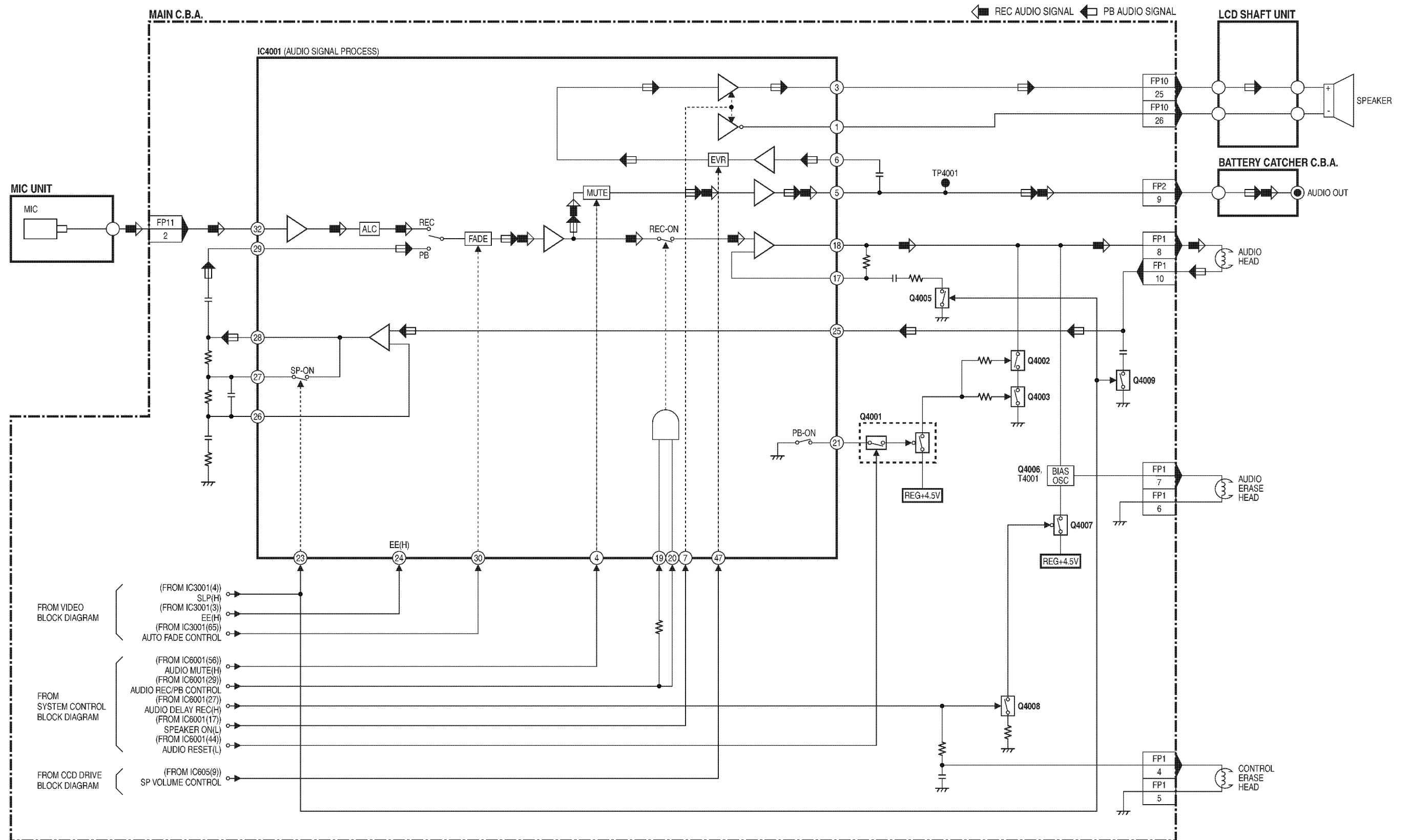
PROCESS BLOCK DIAGRAM



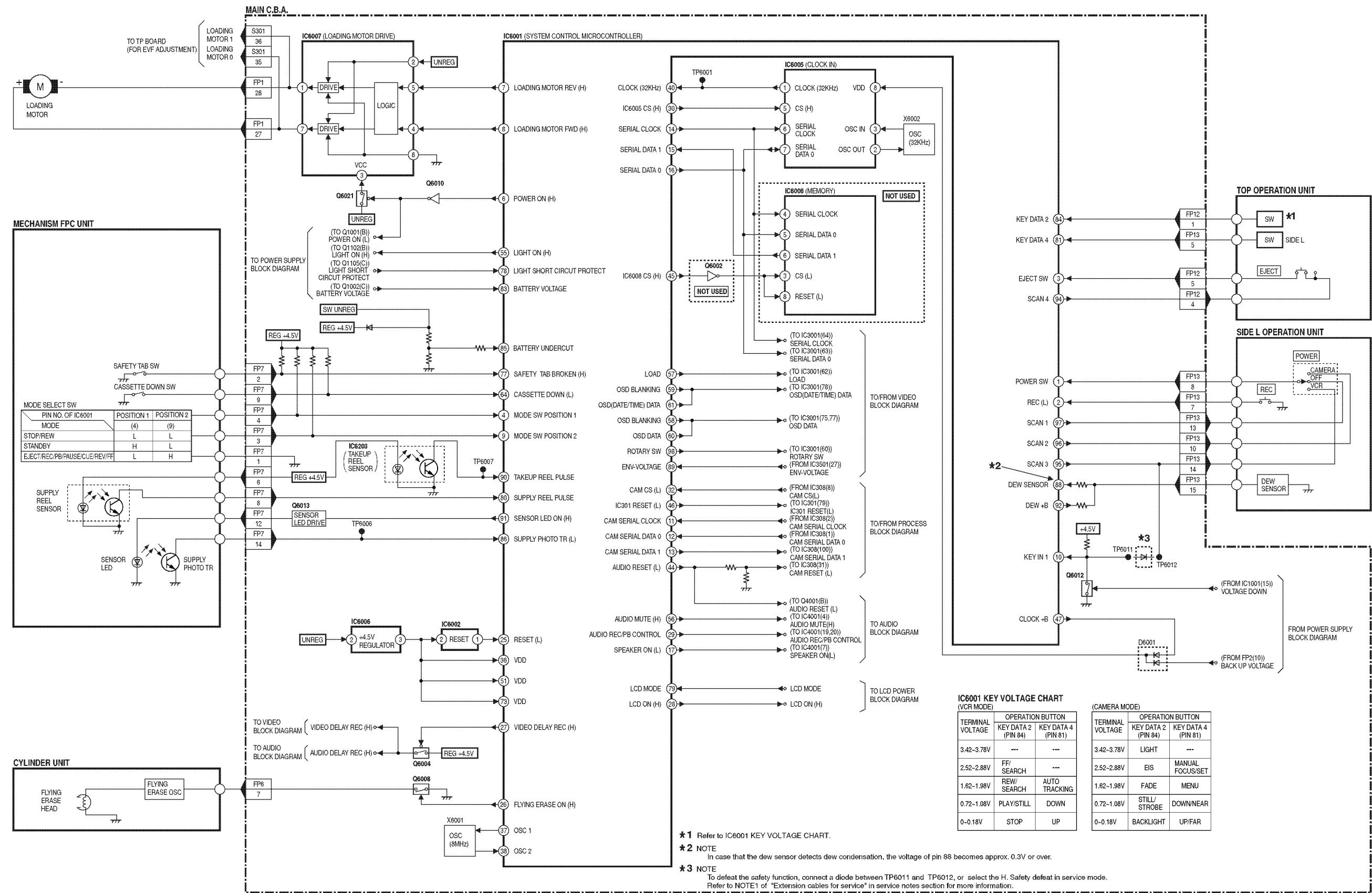
PROCESS BLOCK DIAGRAM
PV-L354/PV-L354-K/PV-L454



AUDIO BLOCK DIAGRAM

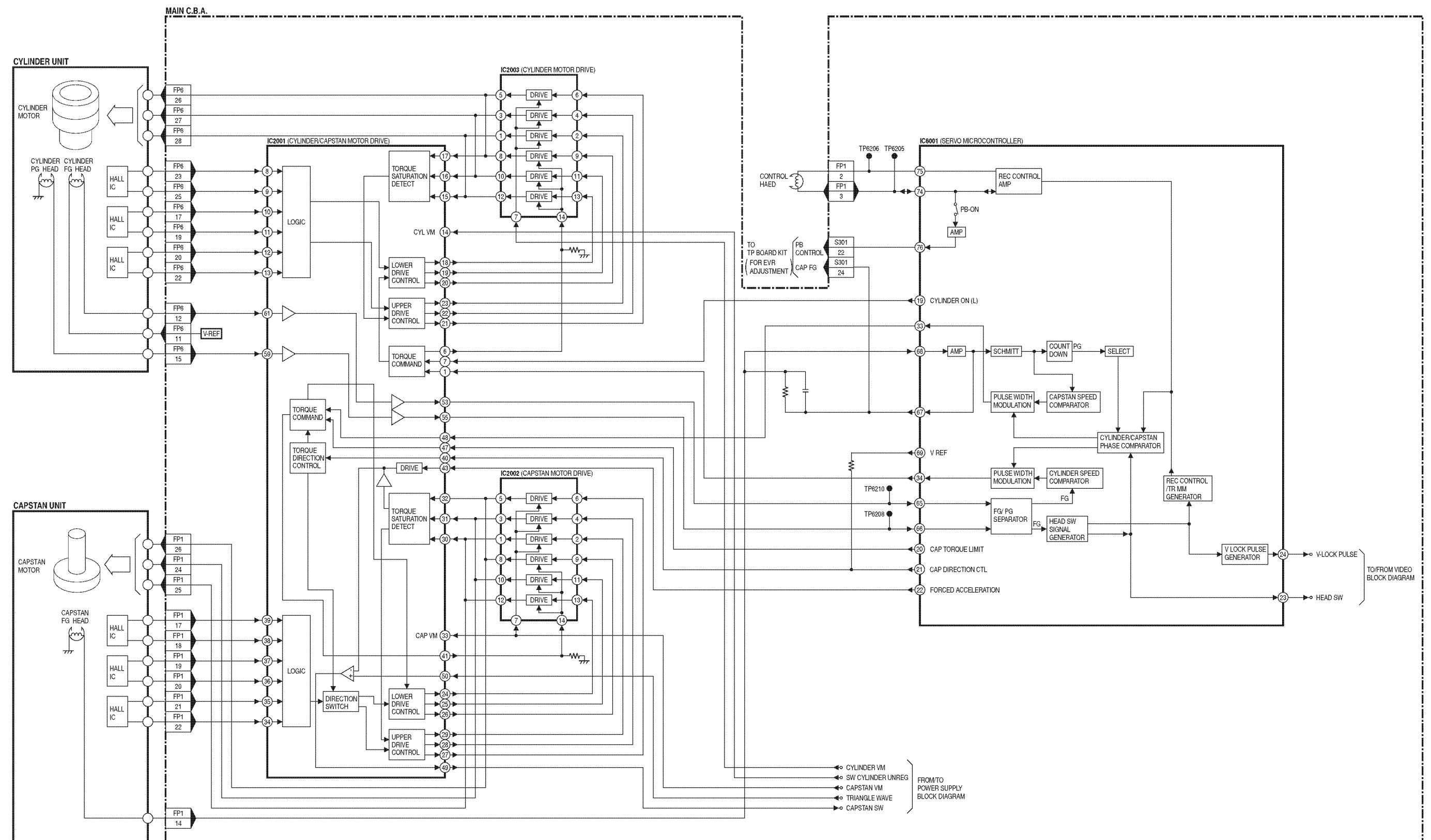
AUDIO BLOCK DIAGRAM
PV-L354/PV-L354-K/PV-L454

SYSTEM CONTROL BLOCK DIAGRAM



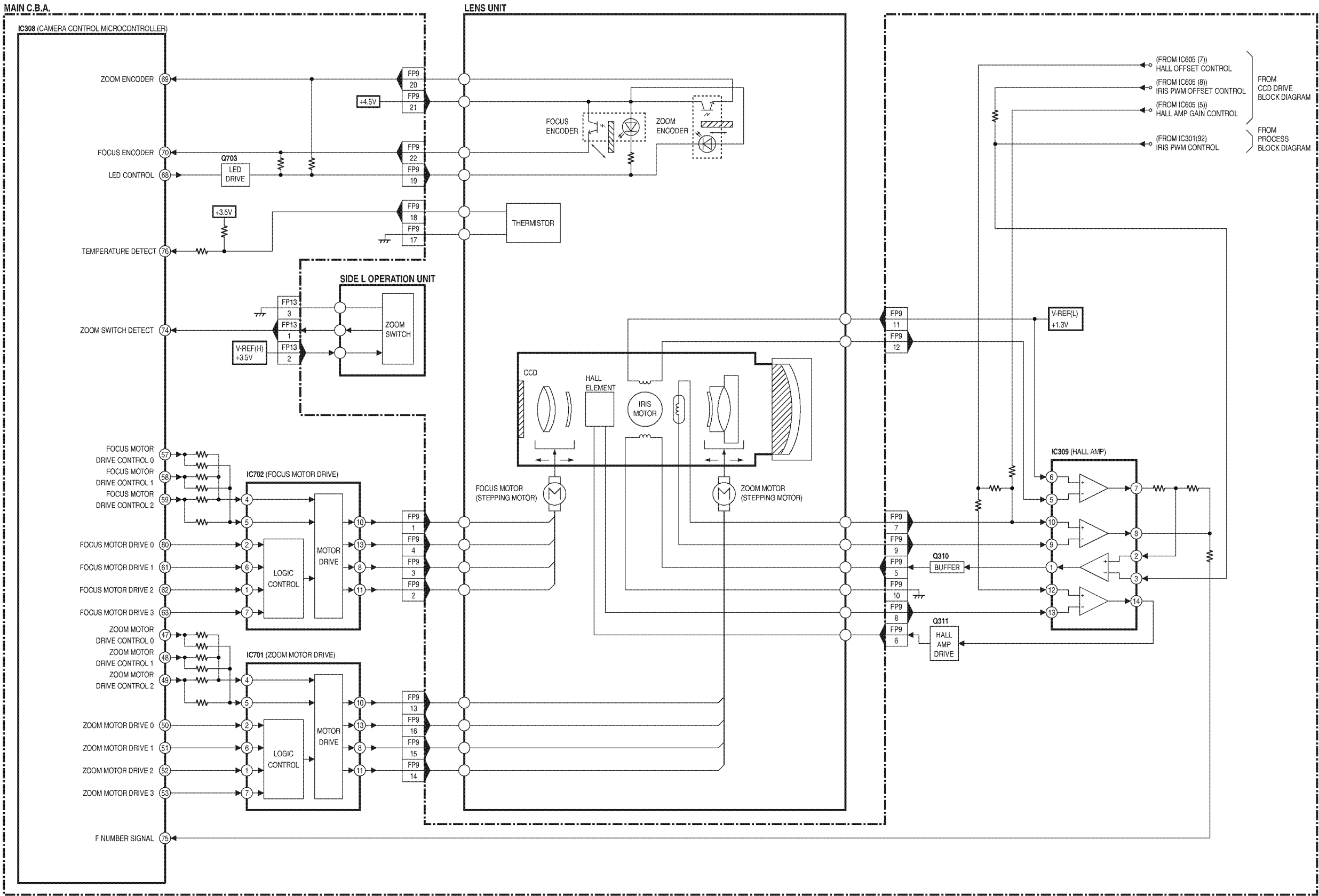
SYSTEM CONTROL BLOCK DIAGRAM
PV-L354/PV-L354-K/PV-L454

SERVO BLOCK DIAGRAM



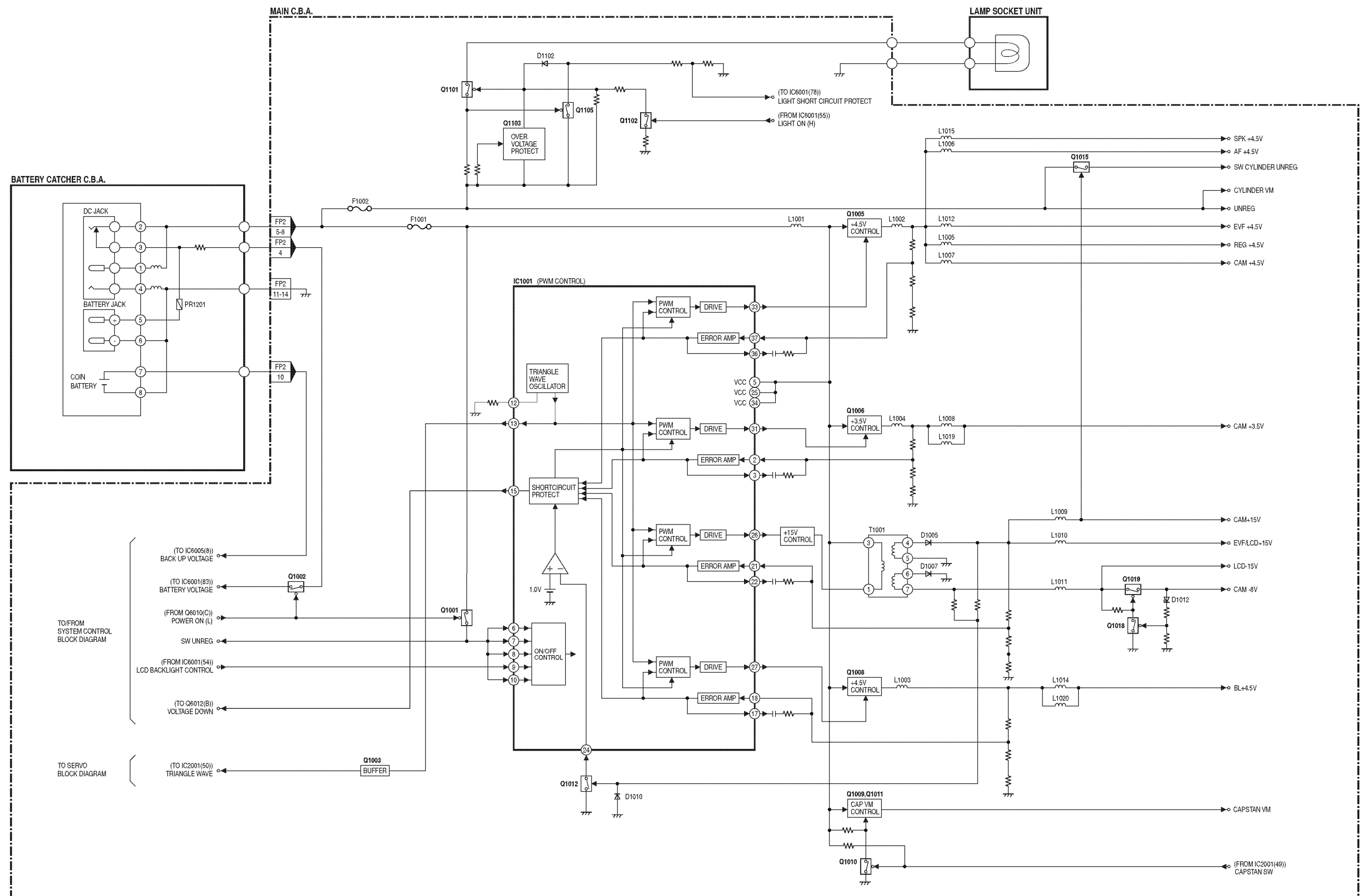
SERVO BLOCK DIAGRAM PV-L354/PV-L354-K/PV-L454

AF BLOCK DIAGRAM



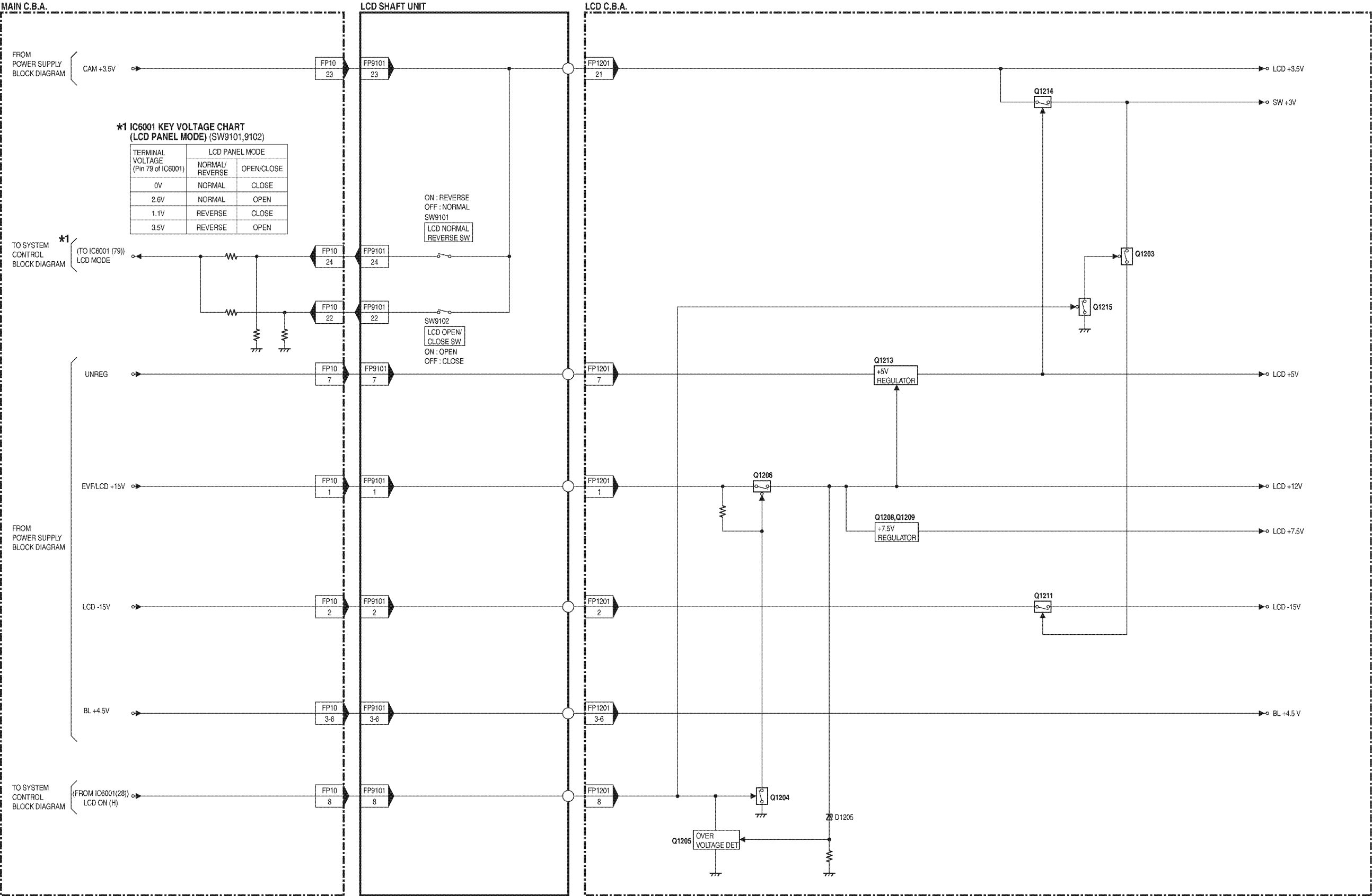
AF BLOCK DIAGRAM
PV-L354/PV-L354-K/PV-L454

POWER SUPPLY BLOCK DIAGRAM



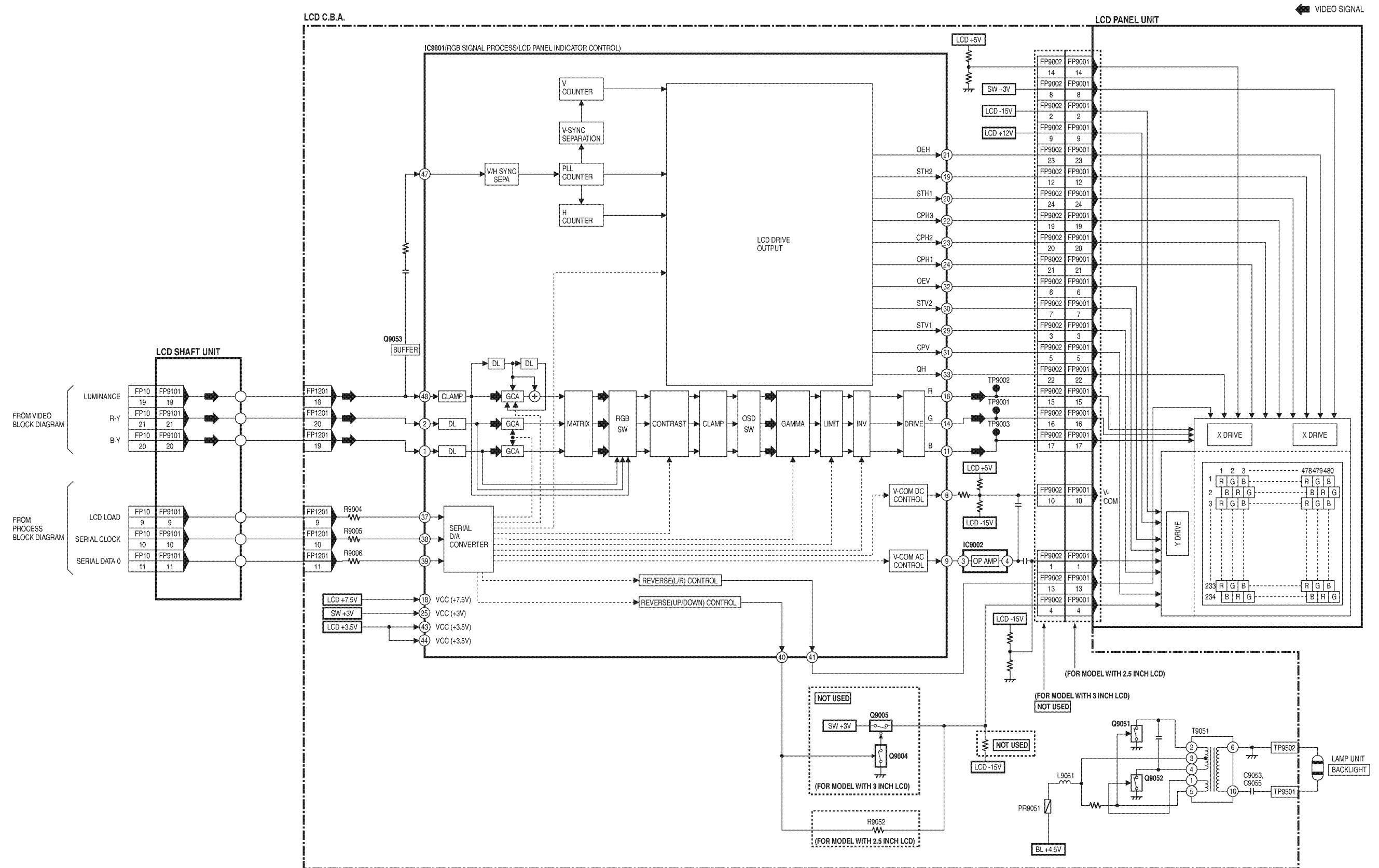
POWER SUPPLY BLOCK DIAGRAM PV-L354/PV-L354-K/PV-L454

LCD POWER BLOCK DIAGRAM



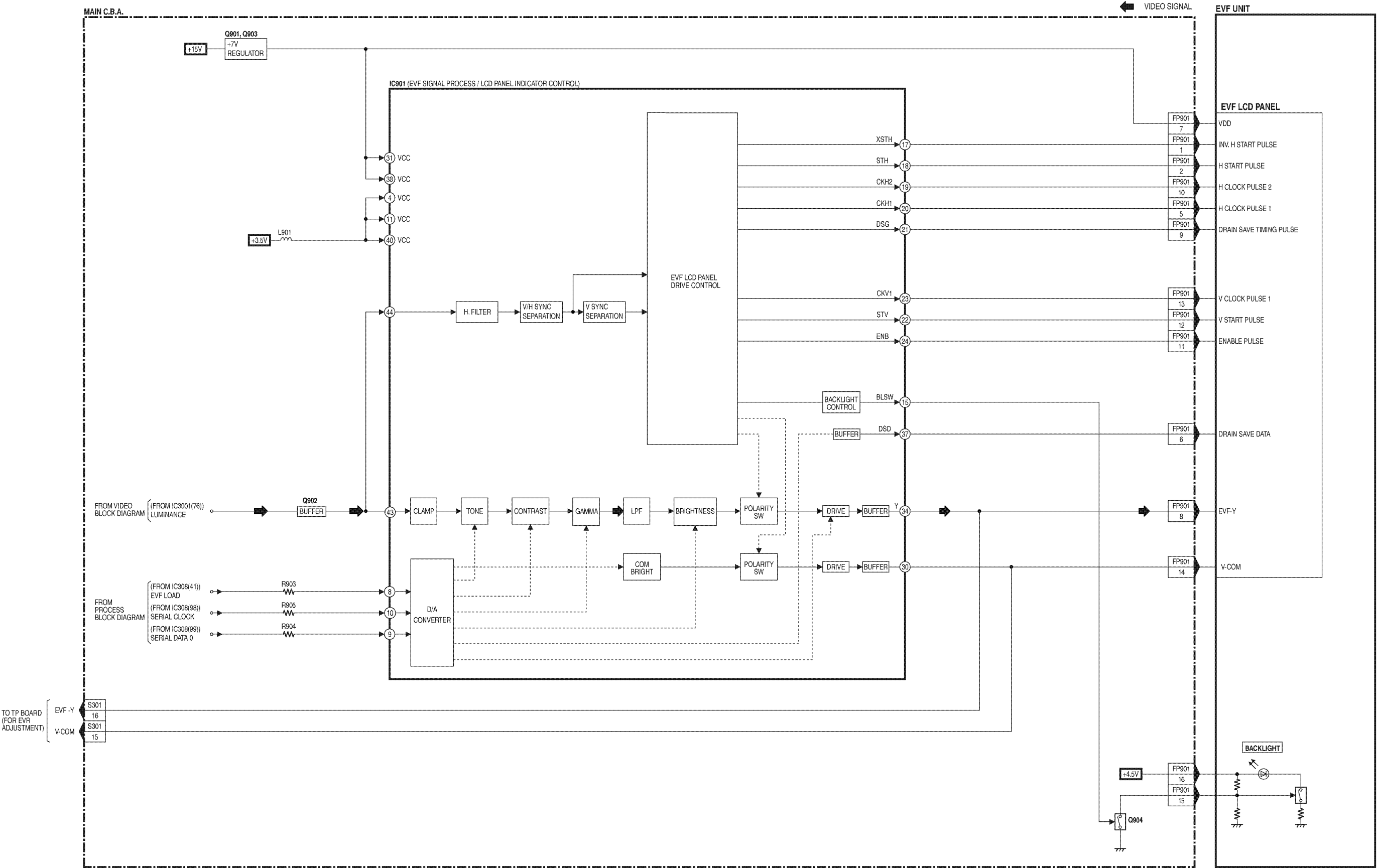
LCD POWER BLOCK DIAGRAM
PV-L354/PV-L354-K/PV-L454

LCD DRIVE BLOCK DIAGRAM



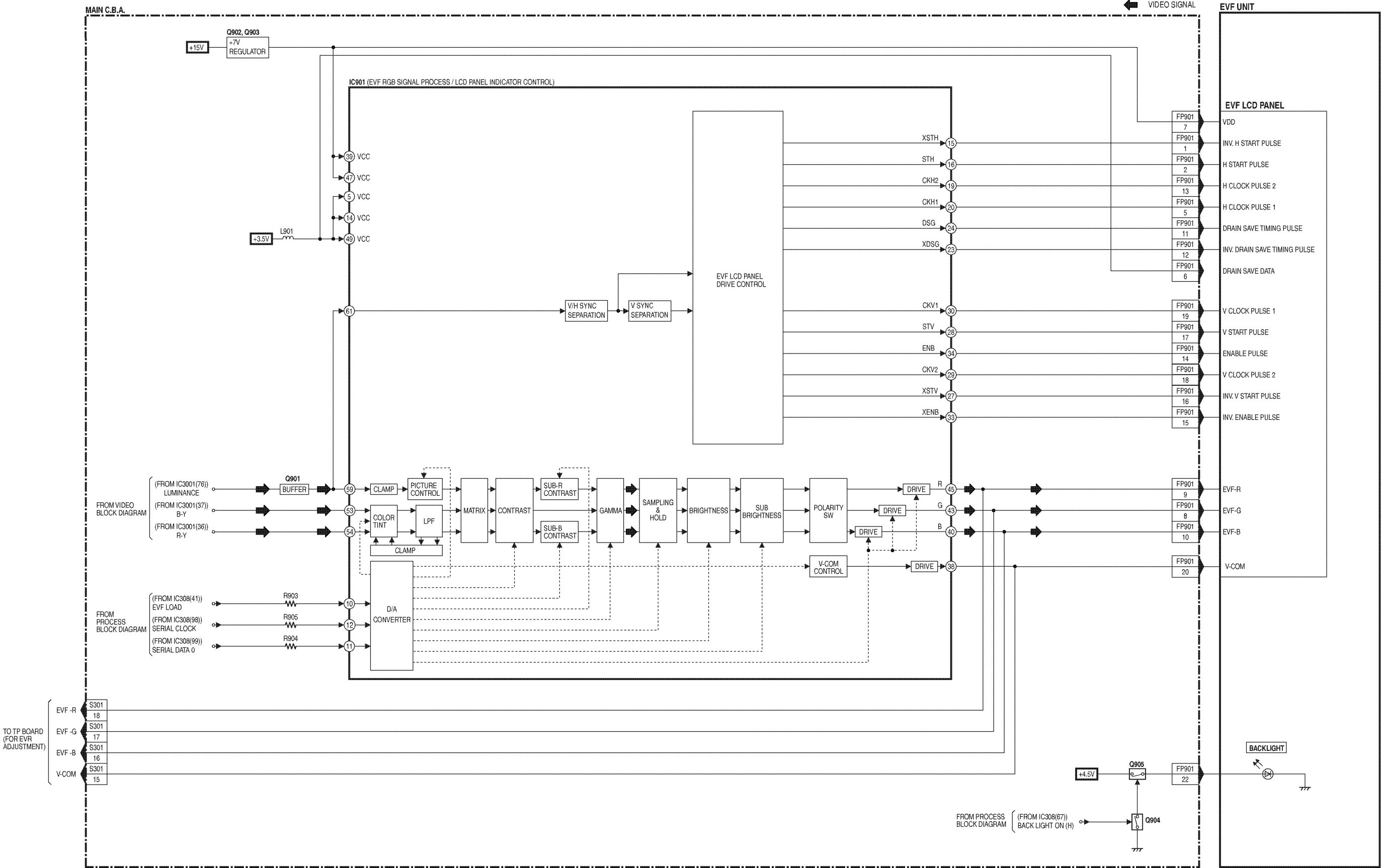
LCD DRIVE BLOCK DIAGRAM PV-L354/PV-L354-K/PV-L454

EVF BLOCK DIAGRAM (Models: PV-L354/PV-L354-K)



EVF BLOCK DIAGRAM
PV-L354/PV-L354-K

COLOR EVF BLOCK DIAGRAM (Model: PV-L454)



COLOR EVF BLOCK DIAGRAM
PV-L454

2 CASSETTE COVER AND LCD SECTION

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.

2. The parts indicated by the dotted line  are for Ass'y only and are not supplied.

COMPONENTS IDENTIFIED BY THE SIGN HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.



12.3. SIDE CASE L SECTION

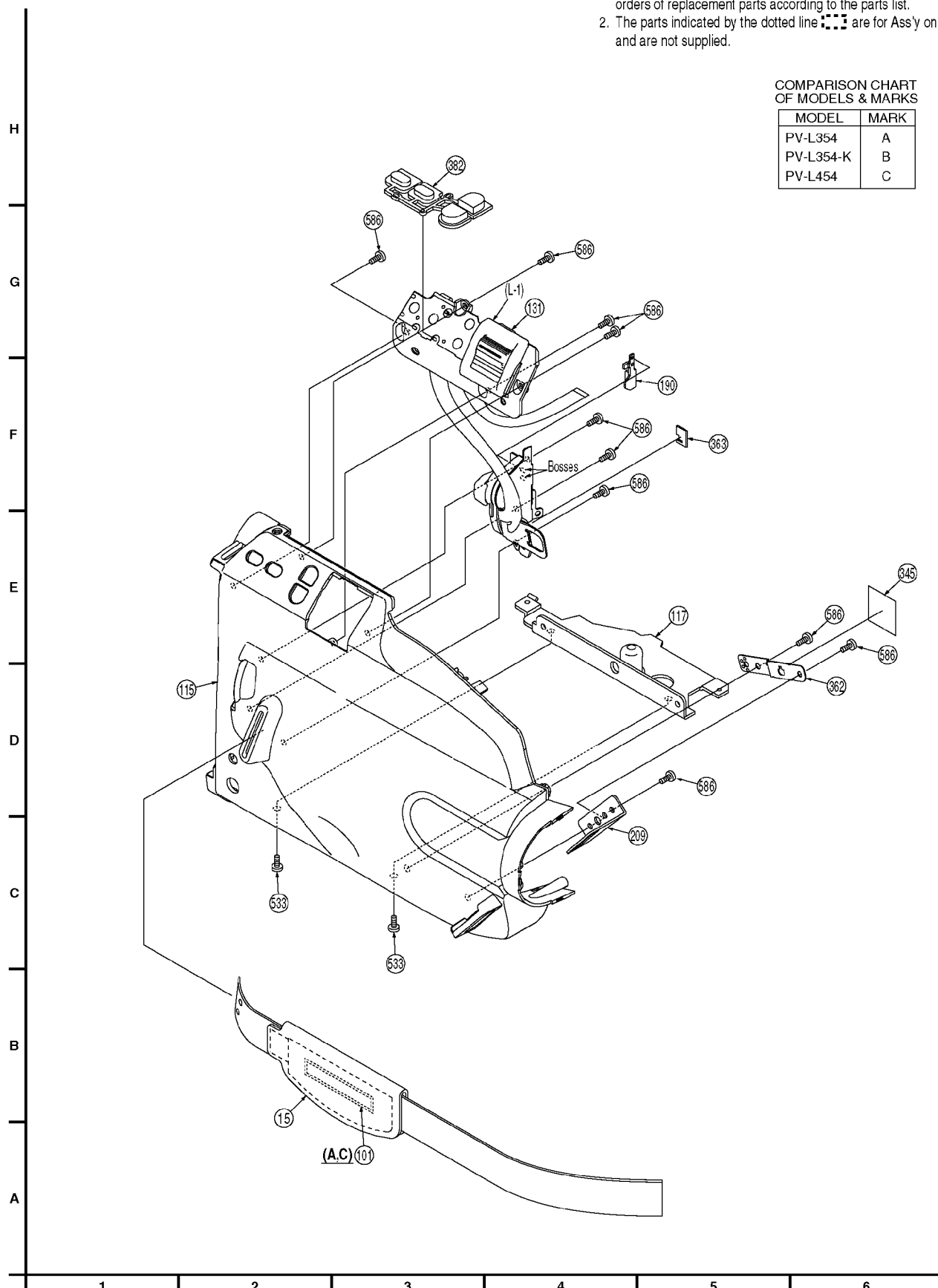
③ SIDE CASE L SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line  are for Assy only and are not supplied.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C

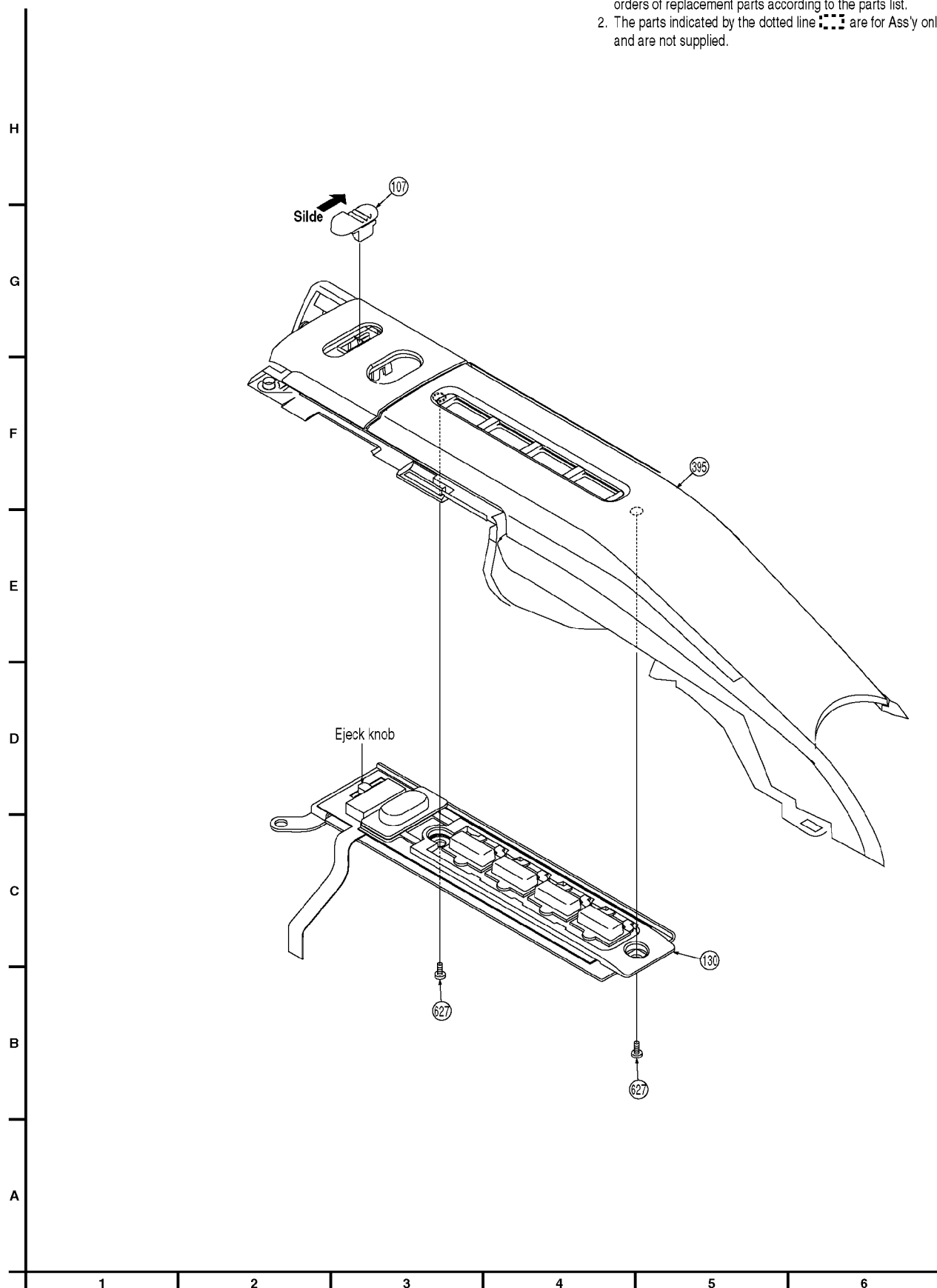


12.4. TOP CASE SECTION

④ TOP CASE SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line  are for Ass'y only and are not supplied.

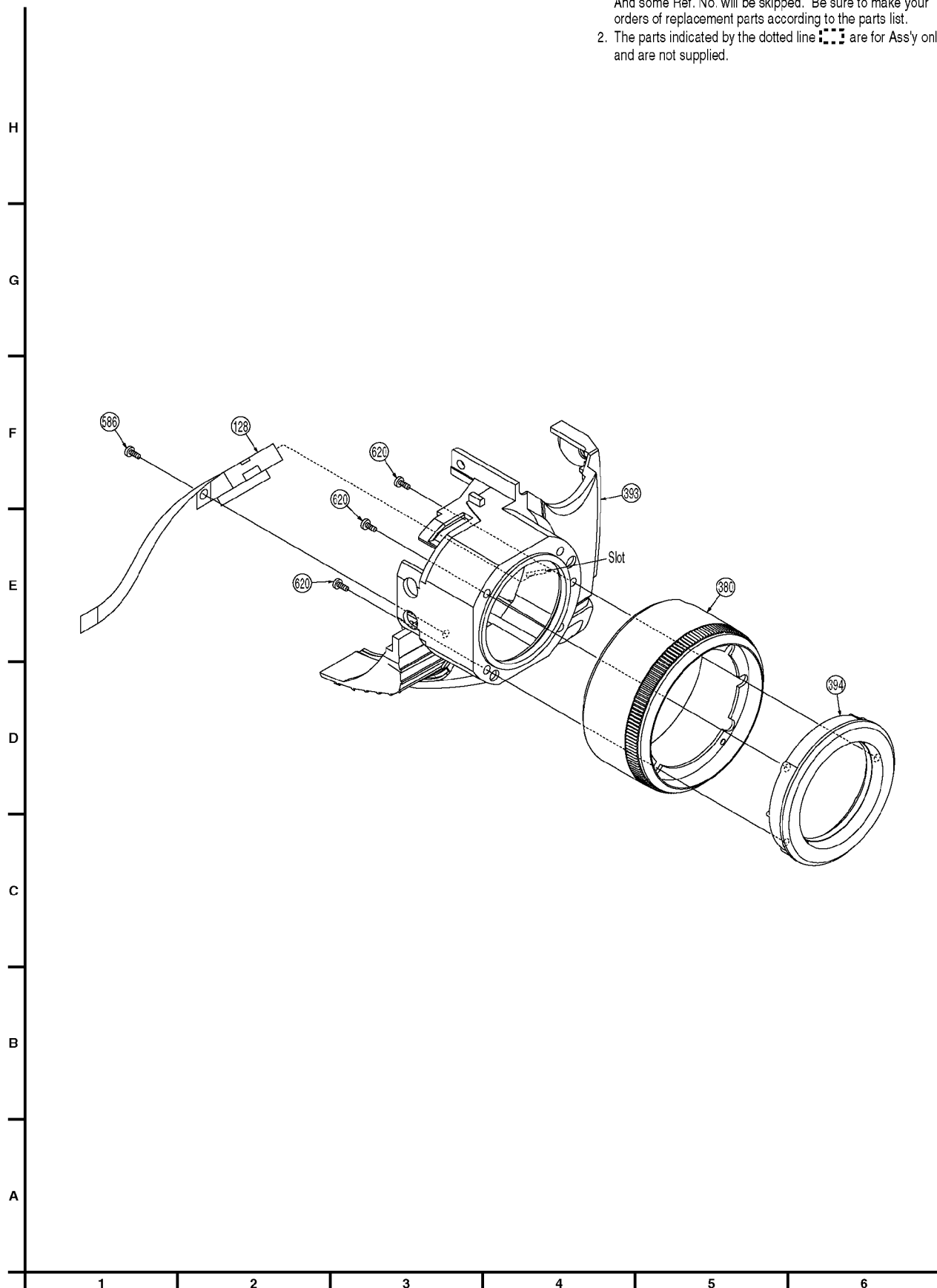


12.5. FRONT CASE SECTION

5 FRONT CASE SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line  are for Assy only and are not supplied.

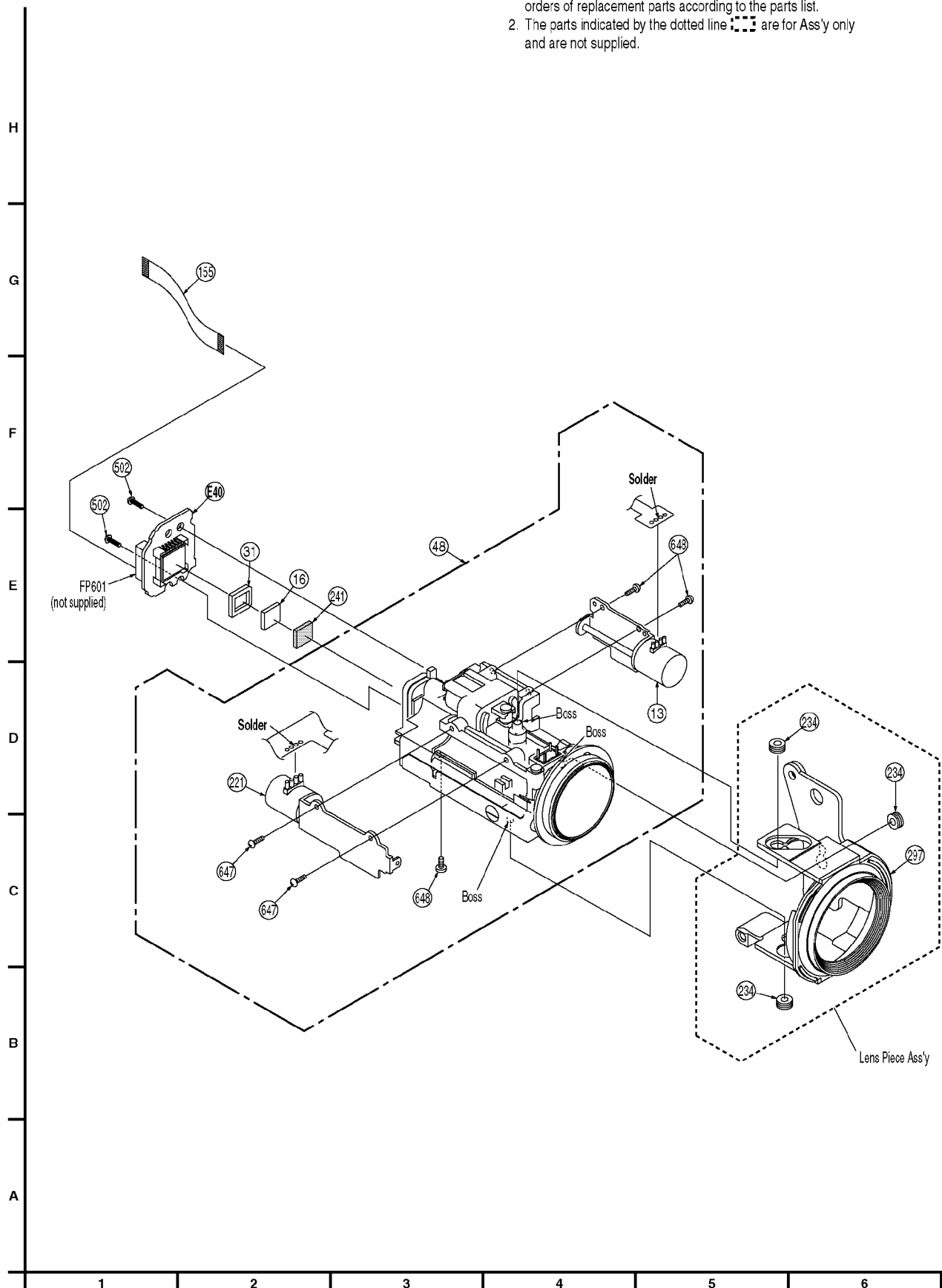


12.6. LENS SECTION

⑥ LENS SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line  are for Ass'y only and are not supplied.



12.7. SIDE CASE R SECTION

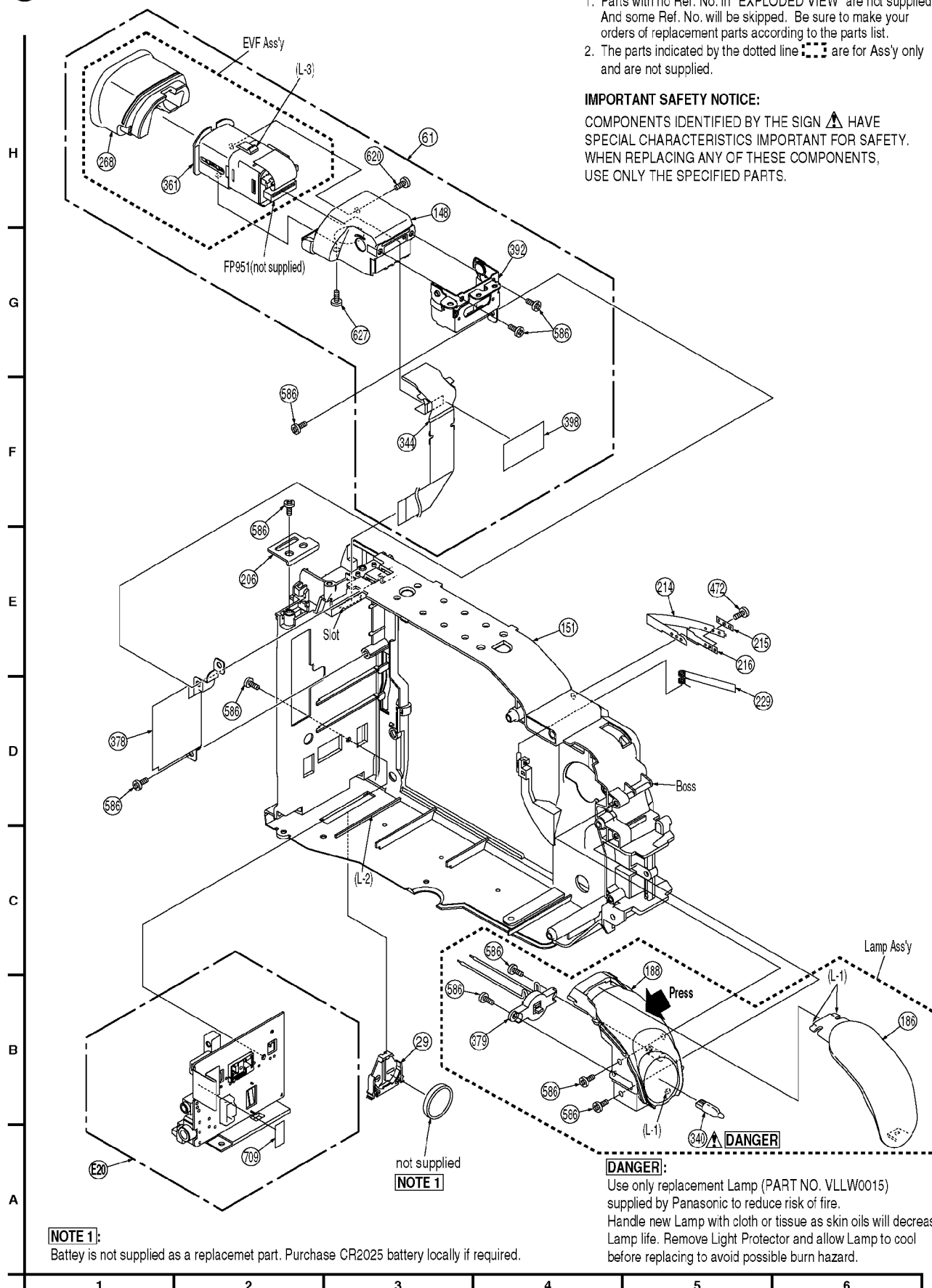
7 SIDE CASE R SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line  are for Assy only and are not supplied.

IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.



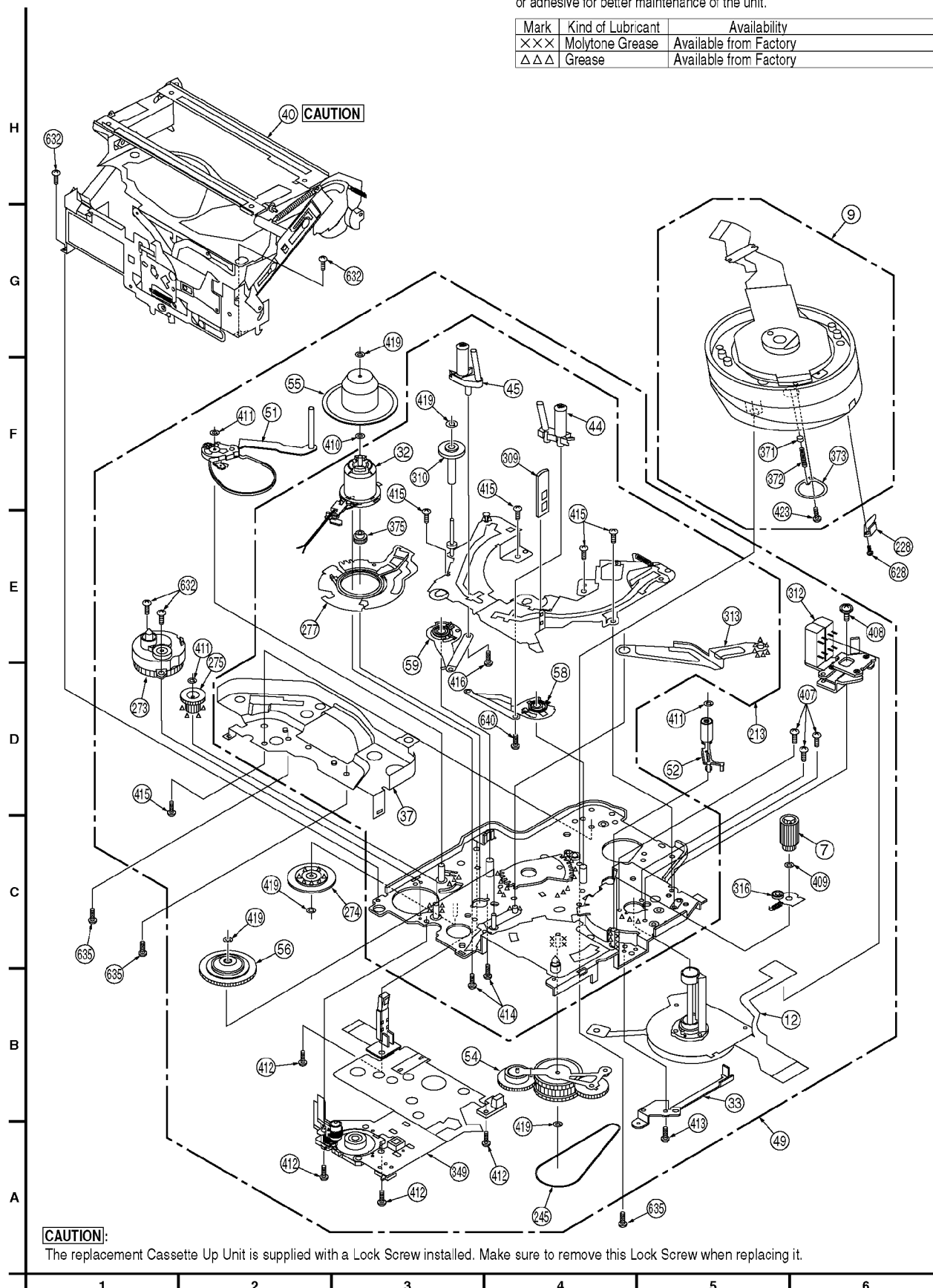
12.8. VCR MECHANISM SECTION

8 VCR MECHANISM SECTION

LUBRICATION POINTS

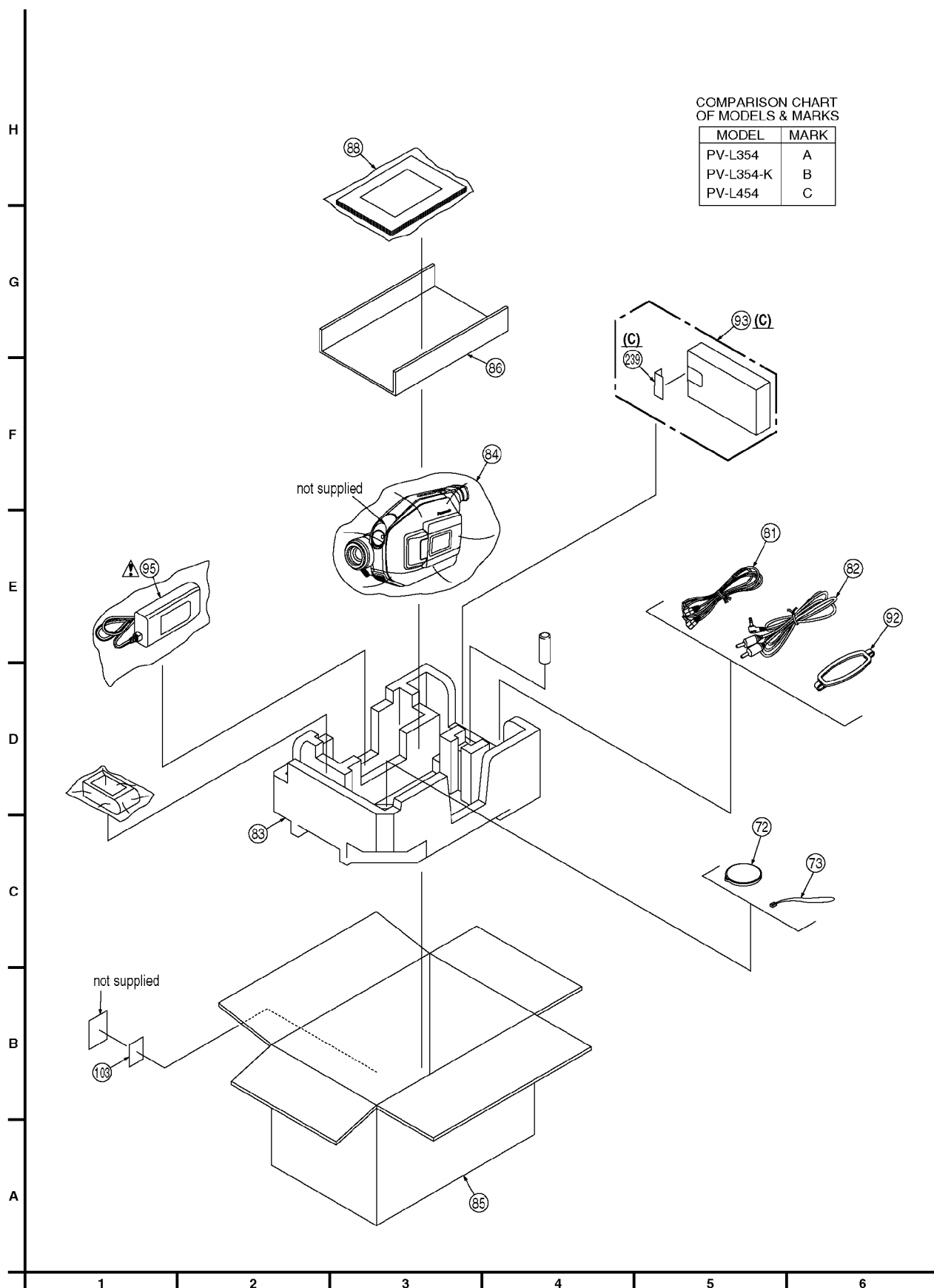
When the marked parts are replaced, apply the recommended lubricants or adhesive for better maintenance of the unit.

Mark	Kind of Lubricant	Availability
×××	Molytone Grease	Available from Factory
△△△	Grease	Available from Factory



12.9. PACKING PARTS AND ACCESSORIES SECTION

9 PACKING PARTS AND ACCESSORIES SECTION



13 REPLACEMENT PARTS LISTS

BEFORE REPLACING PARTS, READ THE FOLLOWING:

13.1. REPLACEMENT NOTES

13.1.1. General Notes

1. Use only original replacement parts:

To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list.

2. IMPORTANT SAFETY NOTICE

Components identified by the sign $\triangle$ have special characteristics important for safety. When replacing any of these components, use only the specified parts.

3. SPECIAL NOTE

All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

4. Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.

5. Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.

6. Definition of Parts supplier:

- a. Parts with mark "SPC" in the Remarks column are supplied from Spare Parts Center of Panasonic AVC Company.
- b. Parts with mark "MKE" in the Remarks column are supplied from MKE.
- c. Parts without mark in the Remarks column are supplied from MKI.

7. Item numbers with capital letter E (Example: E10, E20,...) in the Ref. No. column are shown in the exploded views.

8. Parts whose Ref. Nos. are the same are interchangeable as replacement parts. Any of these parts may be ordered and used as a replacement part.

13.1.2. Mechanical Replacement Notes

1. Section No. of parts shown in Exploded Views are indicated in the Remarks column.

2. Abbreviation

RTL: Retention Time Limited

This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.

3. Cut Washers (Ref No. 409, 411, and 419) are not reusable. If removed, install a new one.

4. After replacing Mechanism Chassis Ass'y (Ref. No. 49) or Mechanism Chassis Sub Ass'y (Ref. No. 213), perform the Tape Interchangeability Adjustment procedures. Refer to "TAPE INTERCHANGEABILITY ADJUSTMENT" in MECHANICAL ADJUSTMENT.

5. Lamp (Ref No. 340) replacement note:

DANGER: Use only replacement Lamp (PART NO. VLLW0015) supplied by Panasonic to reduce risk of fire. Handle new Lamp with cloth or tissue as skin oils will decrease Lamp life. Remove Light Protector and allow Lamp to cool before replacing to avoid possible burn hazard.

13.1.3. Electrical Replacement Notes

1. Unless otherwise specified;

All resistors are in Ω , K = 1,000 Ω , M = 1,000 k Ω .

2. Abbreviation

RTL: Retention Time Limited

This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.

NR: Non Repairable Board Ass'y

MGF CHIP: Metal Glaze Film Chip

C CHIP: Ceramic Chip

COMPLX CMP: Complex Component

W FLMPRF: Wirewound Flameproof

C.B.A.: Circuit Board Assembly

P.C.B.: Printed Circuit Board

E.S.D.: Electrostatically Sensitive Devices

3. SERVICE OF CHIP PARTS

When servicing chip parts, please use a soldering iron of less than 30 W.

4. When replacing 0 Ω resistor, a wire can be substituted for it.

5. IC306 replacement note:

When replacing this IC, be sure to write the initial data with PC-EVR Adjustment Program.

6. Resistors on Liquid Crystal Display C.B.A. (Ref. No. E30) replacement note:

Some resistors on Liquid Crystal Display C.B.A. have Ref. Nos. for wire.

Although these resistors are described on Circuit Board Layout, they are not described on Schematic Diagram. Refer to "LCD C.B.A." in CIRCUIT BOARD LAYOUT for servicing.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C

13.2. MECHANICAL REPLACEMENT PARTS LIST

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C

Definition of Parts supplier:

1. Parts with mark "SPC" in the Remarks column are supplied from Spare Parts Center of Panasonic AVC Company.
2. Parts with mark "MKE" in the Remarks column are supplied from MKE.
3. Parts without mark in the Remarks column are supplied from MKI.

MECHANICAL REPLACEMENT PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
		MECHANICAL REPLACEMENT PARTS	
7	VDGW0072	TAKE GEAR	8
9	LSEG0087	CYLINDER UNIT	8
12	LSEM0071	CAPSTAN UNIT	8
13	LSEM0068S	FOCUS MOTOR UNIT	6
15	LSGQ0081	HAND STRAP	3
16	LSFL0148	OPTICAL FILTER	6
17	LSKF0477	EVR COVER	1
29	LSMD0264	BACK UP COVER	7
31	LSMG0116	FILTER RUBBER	6
32	VEMW0087	LOADING MOTOR UNIT	8
33	LSMA0639	P.C.B. ANGLE	8
37	LSMA0637	MECHANISM SUPPORT ANGLE	8
40	LSXY0487	CASSETTE UP UNIT	8
44	LSXD0019	TAKEUP POST UNIT	8
45	LSXD0018	SUPPLY POST UNIT	8
48	LSXN0030	LENS UNIT	6
49	LSXY0482	MECHANISM SUB CHASSIS ASS'Y	8 RTL
50	LSXY0408	MECHANISM CHASSIS ASS'Y	1 RTL
51	VXLW0080	TENSION UNIT	8
52	LSXL0075	PINCH ARM UNIT	8
54	LSXL0086	IDLER ARM UNIT	8
55	VXPW0025	REEL TABLE UNIT	8
56	VXPW0024	REV CLUTCH	8
58	VXLW0078	TAKEUP LOADING ARM UNIT	8
59	VXLW0077	SUPPLY LOADING ARM UNIT	8
61	LSYK1283	ELECTRONIC VIEWFINDER UNIT (A,B)	7 RTL
61	LSYK1277	COLOR ELECTRONIC VIEWFINDER UNIT (C)	7 RTL
67	LSYK1273	CASSETTE COVER UNIT (A,B)	2
67	LSYK1287	CASSETTE COVER UNIT (C)	2
72	LSKM0937	LENS CAP	9
73	LSGQ0049	LENS CAP STRAP	9
81	LSJA0371	DC CABLE W/PLUG	9
82	LSJA0368	A/V CABLE W/PLUG	9
83	LSPN0313	CUSHION, STYROFORM	9
84	VFPW0049	BAG, POLYETHYLENE	9
85	LSPG1625	PACKING CASE, PAPER (A)	9
85	LSPG1626	PACKING CASE, PAPER (B)	9
85	LSPG1627	PACKING CASE, PAPER (C)	9
86	LSPN0314	CUSHION COVER	9
88	LSQF0753	FAN BAG (A,C)	9
88	LSQF0754	FAN BAG (B)	9
92	LSFC0012	SHOULDER STRAP	9

Ref. No.	Part No.	Part Name & Description	Remarks
93	VYMW0009	CASSETTE ADAPTOR (B)	9
95	PV-A20-A	AC ADAPTOR UNIT (A,C)	9 △
95	PV-A20-K-A	AC ADAPTOR UNIT (B)	9 △
101	N9ZZ00000027	SECURITY TAG	3
103	CPS-1C	CHECK POINT LABEL (A,C)	9
107	LSGU0554	TAPE EJECT KNOB	4
115	LSYK1357	SIDE CASE L UNIT, ABS RESIN	3
117	LSMA0662	TRIPOD FRAME	3
128	LSXM0032	MICROPHONE UNIT	5
130	LSEQ0714	TOP OPERATION UNIT	4
131	LSEQ0715	SIDE L OPERATION UNIT	3
148	LSKM0934	EVF CASE, ABS RESIN	7
151	LSKM0849	SIDE CASE R, ABS RESIN	7
155	LSJB8280	CCD FLEXIBLE PRINTED CIRCUIT	6
184	LSSC0683	SENSOR SHIELD CASE, STEEL	1
186	LSGF0529	LIGHT PROTECTOR	7
188	LSMR0017	LIGHT REFLECTOR	7
190	LSMX0169	STOPPER PIECE	3
203	LSXY0560	BACK LIGHT UNIT	2 △
206	LSMA0647	SHOULDER ANGLE A	7
209	LSMA0643	HAND STRAP ANGLE	3
211	LSXY0515	LCD PANEL UNIT	2
212	LSXY0561	LEAD LIGHT PANEL UNIT	2
213	LSXY0407	MECHANISM CHASSIS SUB ASS'Y	8
214	LSMZ0213	TAPE GUIDE	7
215	LSMZ0210	GUIDE COVER	7
216	LSMZ0214	PROTECTOR	7
221	LSEM0067S	ZOOM MOTOR UNIT	6
228	VMDW0357	BULGE CHIP	8
229	LSMB0248	TAPE GUIDE SPRING	7
234	LSMT0045	LENS RUBBER	6
239	VKFS1021	BATTERY COMPARTMENT LID (B)	9
241	LSFL0149	INFRARED CUT FILTER	6
245	VDVW0003	CAPSTAN BELT	8
268	LSMG0118	EYE CAP	7
273	VXYW0195	REDUCTION GEAR UNIT	8
274	VDGW0063	REDUCTION GEAR A	8
275	LSDG0139	REDUCTION GEAR B	8
277	VXYW0194	MAIN CAM UNIT	8
297	LSMD0784	LENS PIECE	6
309	VMDW0486	PINCH TAPE GUIDE	8
310	VXJW0095	IMPEDANCE ROLLER UNIT	8
312	LSEH0007	AC HEAD UNIT	8
313	VMLW0083	PINCH TOGGLE	8
316	LSXL0083	REV BRAKE ARM UNIT	8
335	LSKM0973	LCD CASE B ABS RESIN	2
340	VLLW0015	LAMP	7 △
344	LSEK0545	EVF FLEXIBLE FLAT CABLE UNIT (A,B)	7
344	LSEK0532	EVF FLEXIBLE FLAT CABLE UNIT (C)	7
345	LSMF0057	SHEET, NYLON-RAYON	1,2,3
348	LSEK0505	LCD FLEXIBLE PRINTED CIRCUIT UNIT	1
349	LSEQ0540	MECHANISM FLEXIBLE PRINTED CIRCUIT UNIT	8
355	LSYK1018	LCD CASE A UNIT, ABS RESIN	2
361	LSEK0529	EVF MAIN UNIT (A,B)	7
361	LSEK0525	EVF MAIN UNIT (C)	7
362	LSSC0602	ESD PLATE L, STEEL	3
363	LSMA0665	COOLING PLATE	3
366	LSXA0554	LCD SHAFT UNIT	2
371	LSXA0002	EARTH CONTACT	8
372	LSMB0168	CONTACT SPRING	8
373	LSMA0336	CONTACT PLATE, STEINLESS	8
375	VDGW0059	MOTOR GEAR	8
378	LSSC0694	EVF ESD PLATE, STEEL	7
379	LSEK0478	LAMP SOCKET UNIT	7
380	LSGK0137	DECORATION RING	5
382	LSGU0558	UP DOWN BUTTON	3
383	LSKM0872	SHAFT COVER	2
387	LSMD0783	COVER HINGE	2
392	LSXA0490	EVF ANGLE UNIT	7
393	LSYK1270	FRONT CASE UNIT, ABS RESIN	5

Ref. No.	Part No.	Part Name & Description	Remarks
394	LSGP0340	RING PANEL	5
395	LSYK1271	TOP CASE UNIT,ABS RESIN	4
396	LSMZ0343	SOUND INSULATION SHEET,	2
397	LSSC0603	CONNECTOR SHIELD CASE,STEEL	2
398	LSMF0247	SHEET,NYLON-RAYON	7
407	XQN16+A32	SCREW,STEEL	8
408	VHDW0124	SCREW W/WASHER,STEEL	8
409	VMXW0217	CUT WASHER,STEEL	8
410	XWGV15Z32G	POLY SLIDER WASHER	8
411	VMXW0213	CUT WASHER,STEEL	8
412	XQN2+B35	SCREW,STEEL	8
413	XQN2+A22	SCREW,STEEL	8
414	XQN14+A32	SCREW,STEEL	8
415	XQN2+B22	SCREW,STEEL	8
416	XQN14+BJ25FZ	SCREW,STEEL	8
419	VMX2026	CUT WASHER,STEEL	8
421	XQN16+BF4FN	SCREW,STEEL	1
423	XQN16+B3FN	SCREW,STEEL	8
469	XQN2+BF4FXK	SCREW,STEEL	2
472	VHDW0102	SCREW,STEEL	7
473	VHDW0100	SCREW,STEEL	1
502	XQN16+CJ6	SCREW,STEEL	6
504	XQN2+CF3	SCREW,STEEL	1
533	XQN2+BF5FXK	SCREW,STEEL	1,3
586	XQN2+BJ5FXK	SCREW,STEEL	1,2,3,5,7
604	XQN2+BJ8FXK	SCREW,STEEL	1
620	XQN2+BJ6FXK	SCREW,STEEL	5,7
627	XQN2+BJ3FXK	SCREW,STEEL	4,7
628	XQN16+B3FU	SCREW,STEEL	8
632	XQN14+B3	SCREW,STEEL	8
635	XQN16+C5FU	SCREW,STEEL	8
640	LSHD0054	SCREW,STEEL	8
647	XQN2+BJ35	SCREW,STEEL	6
648	XQN14+BJ4	SCREW,STEEL	6
706	LSMZ0342	INSULATION SHEET,PLASTIC	2
707	VMTS0035	CUSHION,RUBBER	1
709	LSMX0188	SHEET,PET	7
712	LSMF0220	SHEET,NYLON-RAYON	1
E10	LSEP8257A1	MAIN C.B.A. (A)	1 RTL
E10	LSEP8257B1	MAIN C.B.A. (B)	1 RTL
E10	LSEP8290A1	MAIN C.B.A. (C)	1 RTL
E20	LSEP8259A1	BATTERY CATCHER C.B.A. NR	7
E30	LSEP8206D1	LIQUID CRYSTAL DISPLAY C.B.A.	2 RTL
E40	LSEQ0666	CCD C.B.A. NR	6

SERVICE FIXTURES AND TOOLS

Ref. No.	Part No.	Part Name & Description	Remarks
	VFKS003-N	REFLECTION CHART SET	MKE
	VFKS003A	GLAY SCALE CHART	MKE
	VFKS003B	COLOR BAR CHART	MKE
	VFKS003C	REGISTRATION CHART	MKE
	VFKS003D	RESOLUTION CHART	MKE
	VFK1164TFWC2	WHITE CHART	SPC
	VFK1164TFGS2	GRAY SCALE CHART	SPC
	VFK1164TFCB2	COLOR BAR CHART	SPC
	VFK1164TFCT2	COLOR CONVERSION FILTER	SPC
	VFK1164LBX1	LIGHT BOX	SPC
	VFK1164TCM02	INFINITY LENS (WITH FOCUS CHART)	SPC
	VFK1164TLA01	LAMP	SPC
	VFK1164TAR58	ATTACHMENT RING (58mm)	SPC
	VFK1164TAR55	ATTACHMENT RING (55mm)	SPC
	VFK1164TAR52	ATTACHMENT RING (52mm)	SPC
	VFK1164TAR49	ATTACHMENT RING (49mm)	SPC
	VFK1164TAR46	ATTACHMENT RING (46mm)	SPC
	VFK1164TAR43	ATTACHMENT RING (43mm)	SPC
	VFK1164TAR37	ATTACHMENT RING (37mm)	SPC
	VFK1164TAR3A	ATTACHMENT RING (30.5mm)	SPC
	VFK1164TAR27	ATTACHMENT RING (27mm)	SPC
	VFMS0004H6C	VHS-C ALIGNMENT TAPE	MKE
	VFMW0001C	VHS-C ALIGNMENT TAPE	MKE
	VFK27	HEAD CLEANING STICK	SPC

Ref. No.	Part No.	Part Name & Description	Remarks
	VFKS0081	GREASE	MKE
	VFK1024	MOLYBENE GREASE	SPC
	VUVS0007	EXTENSION CABLE 12P	MKE
	VUVS0012	EXTENSION CABLE 22P	MKE
	VUVS0015	EXTENSION CABLE 28P	MKE
	LSUP0005A	TP ADJUSTMENT CABLE 40P	MKE
	VFKW0123B	TP ADJUSTMENT PCB 40P	MKE
	LSUP0005C	TP CLIP 36P	MKE
	VFKW0066	A.W.B. ADJUSTMENT FIXTURE	MKE
	VFKW0116	COLOR CHIP CHART	MKE
	VFKW1000	CAAS KIT	MKE
	VFKW1000AA	INTERFACE BOX	MKE
	VFKW1000B	CAMERA CONNECTING CABLE	MKE
	VFKW1000C	9PIN RS-232C CABLE	MKE
	VFKW1000D	25PIN RS-232C CABLE	MKE
	VHDW0125	LOCK SCREW	MKE
	LSVQ0028	PLIER FOR NON ZIF CONNECTOR	MKE

13.3. ELECTRICAL REPLACEMENT PARTS LIST

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C

Definition of Parts supplier:

1. All parts are supplied from MKI.

PRINTED CIRCUIT BOARD ASSEMBLY

Ref. No.	Part No.	Part Name & Description	Remarks
E10	LSEP8257A1	MAIN C.B.A. (A)	E.S.D. RTL
E10	LSEP8257B1	MAIN C.B.A. (B)	E.S.D. RTL
E10	LSEP8290A1	MAIN C.B.A. (C)	E.S.D. RTL
E20	LSEP8259A1	BATTERY CATCHER C.B.A. NR	
E30	LSEP8206D1	LIQUID CRYSTAL DISPLAY C.B.A.	RTL
E40	LSEQ0666	CCD C.B.A. NR	

13.3.1. MAIN C.B.A.

(MODEL: A, B)

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC301	MN673242	IC, LOGIC	E.S.D.
IC306	C3EBEG000047	IC, 4K EEP ROM	E.S.D.
IC308	C2DBJG000142	IC, 32BIT MICROCONTROLLER	E.S.D.
IC309	C0ABCZ000008	IC, LINEAR	
IC603	C1AB00000339	IC, LOGIC	E.S.D.
IC605	AN2109NFHQ	IC, LINEAR	

Ref. No.	Part No.	Part Name & Description	Remarks
IC701	C0GBC0000018	IC, LINEAR	
IC701	C0GBA0000011	IC, LINEAR	
IC701	LB1837MTEL3	IC, LINEAR	
IC702	C0GBC0000018	IC, LINEAR	
IC702	C0GBA0000011	IC, LINEAR	
IC702	LB1837MTEL3	IC, LINEAR	
IC901	C0HBA0000147	IC, LINEAR	
IC1001	C0DBAZZ00064	IC, LINEAR	
IC2001	AN3897FH-V	IC, LINEAR	
IC2002	UNA022400L	IC, LINEAR	
IC2003	UNA022400L	IC, LINEAR	
IC3001	AN2401NFH	IC, LINEAR	
IC3002	MN38663S-E1	IC, LOGIC	E.S.D.
IC4001	AN12998A-V	IC, LINEAR	
IC6001	MN101D06FWH	IC, 8BIT MICROCONTROLLER	E.S.D.
IC6002	C0EBG0000135	IC, LINEAR	
IC6002	C0EBG0000111	IC, LINEAR	
IC6005	C1ZBZ0002198	IC, PERIPHERAL MCU	E.S.D.
IC6006	C0CBACE00012	IC, PERIPHERAL MCU	E.S.D.
IC6007	C0GBG0000029	IC, LINEAR	
IC6203	CNB10010RL	TAKEUP REEL SENSOR	

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q301	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q301	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q301	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q302	B1ABAD000010	TRANSISTOR SI NPN CHIP	
Q302	2SC4215-YTL	TRANSISTOR SI NPN CHIP	
Q303	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q303	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q303	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q303	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q305	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q305	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q305	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q306	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q306	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q306	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q307	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q307	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q307	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q310	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q310	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q310	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q311	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q311	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q311	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q617	UNR521500L	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q617	B1GBCFJA0006	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q617	B1GBCFJA0013	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q703	UNR521100L	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q703	B1GBCFJJ0007	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q703	B1GBCFJJ0035	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q703	B1GBBFJJ0001	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q901	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q901	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q901	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q902	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q902	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q902	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q903	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q903	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q903	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q904	UNR521200L	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q904	B1GBCFLL0012	TRANSISTOR COMPLX CMP SI PNP CHIP	

Ref. No.	Part No.	Part Name & Description	Remarks
Q904	B1GBCFLL0026	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q1001	UNR511100L	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1001	B1GDCFJJ0008	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1001	B1GDBFJJ0001	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1001	B1GDCFJJ0030	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1002	UNR511300L	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1002	B1GDCFNN0007	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1002	B1GDCFNN0021	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1003	UNR511500L	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1003	B1GDCFJJ0025	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1003	B1GDCFJA0017	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1005	B1DHCC000034	TRANSISTOR FET	
Q1006	B1ZBZ0000038	TRANSISTOR SI	
Q1007	B1DFCG000011	TRANSISTOR FET	
Q1008	B1DHCC000034	TRANSISTOR FET	
Q1009	B1ZBZ0000040	TRANSISTOR SI	
Q1010	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q1010	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q1010	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q1011	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q1011	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q1011	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q1012	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q1012	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q1012	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q1015	B1ABCF000098	TRANSISTOR SI NPN CHIP	
Q1015	B1ABCF000099	TRANSISTOR SI NPN CHIP	
Q1018	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q1018	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q1018	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q1019	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q1019	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q1019	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q1101	B1BDEB000001	TRANSISTOR SI PNP CHIP	
Q1102	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q1102	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q1102	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q1103	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q1103	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q1103	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q1105	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q1105	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q1105	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q3003	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q3003	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q3003	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q3004	B1ABAD000010	TRANSISTOR SI NPN CHIP	
Q3004	2SC4215-YTL	TRANSISTOR SI NPN CHIP	
Q3005	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q3005	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q3005	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q3027	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q3027	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q3027	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q4001	XP0460100L	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q4001	B1HFCFA00003	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q4001	B1HFCFA00009	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q4001	B1HFCFA00017	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q4002	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q4002	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q4002	B1ABCF000112	TRANSISTOR SI NPN CHIP	

Ref. No.	Part No.	Part Name & Description	Remarks
Q4003	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q4003	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q4003	BLABCF000112	TRANSISTOR SI NPN CHIP	
Q4005	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q4005	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q4005	BLABCF000112	TRANSISTOR SI NPN CHIP	
Q4006	2SD06020RL	TRANSISTOR SI NPN CHIP	
Q4006	2SD0602ARL	TRANSISTOR SI NPN CHIP	
Q4006	BLABGD000012	TRANSISTOR SI NPN CHIP	
Q4007	2SB09700RL	TRANSISTOR SI PNP CHIP	
Q4007	2SB1585	TRANSISTOR SI PNP CHIP	
Q4008	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q4008	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q4008	BLABCF000112	TRANSISTOR SI NPN CHIP	
Q4009	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q4009	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q4009	BLABCF000112	TRANSISTOR SI NPN CHIP	
Q6004	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q6004	BLADCF000063	TRANSISTOR SI PNP CHIP	
Q6004	BLADCF000075	TRANSISTOR SI PNP CHIP	
Q6008	UNR521700L	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q6008	B1GBCFLA0006	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q6008	B1GBCFLA0008	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q6010	UNR521200L	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q6010	B1GBCFLL0012	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q6010	B1GBCFLL0026	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q6012	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q6012	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q6012	BLABCF000112	TRANSISTOR SI NPN CHIP	
Q6013	2SD0601A0L	TRANSISTOR SI NPN CHIP	
Q6013	BLABCF000011	TRANSISTOR SI NPN CHIP	
Q6013	BLABCF000106	TRANSISTOR SI NPN CHIP	
Q6013	BLABCC000004	TRANSISTOR SI NPN CHIP	
Q6021	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q6021	BLADCF000063	TRANSISTOR SI PNP CHIP	
Q6021	BLADCF000075	TRANSISTOR SI PNP CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D601	MA2J11100L	DIODE SI CHIP	
D601	B0ACCK000005	DIODE SI CHIP	
D701	MA2J11100L	DIODE SI CHIP	
D701	B0ACCK000005	DIODE SI CHIP	
D901	MAZ80750ML	DIODE ZENER CHIP 7.5V	
D1004	B0JCMD000014	DIODE SI CHIP	
D1005	MA2J11100L	DIODE SI CHIP	
D1005	B0ACCK000005	DIODE SI CHIP	
D1007	MA2J11100L	DIODE SI CHIP	
D1007	B0ACCK000005	DIODE SI CHIP	
D1008	MA2J11100L	DIODE SI CHIP	
D1008	B0ACCK000005	DIODE SI CHIP	
D1009	B0JCMD000014	DIODE SI CHIP	
D1010	MA2J11100L	DIODE SI CHIP	
D1010	B0ACCK000005	DIODE SI CHIP	
D1012	MAZ80680HL	DIODE ZENER CHIP 6.8V	
D1101	B0BC01200021	DIODE ZENER CHIP 12V	
D1102	MA2J11100L	DIODE SI CHIP	
D1102	B0ACCK000005	DIODE SI CHIP	
D1103	MAZ3120D0L	DIODE ZENER CHIP 12V	
D3006	MA2S35700K8	DIODE SI CHIP	
D3006	B0CAAC000005	DIODE SI CHIP	
D3006	MA2S357-TX	DIODE SI CHIP	
D6001	MA3J142E0L	DIODE SI CHIP	
D6001	B0ADCJ000012	DIODE SI CHIP	
D6019	MA2J11100L	DIODE SI CHIP	
D6019	B0ACCK000005	DIODE SI CHIP	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R301	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R302	D0HB561ZA002	MGF CHIP 1/16W 560	
R303	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R304	D0HB222ZA002	MGF CHIP 1/16W 2.2K	
R305	D0HB222ZA002	MGF CHIP 1/16W 2.2K	
R306	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R307	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R308	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R309	D0HB102ZA002	MGF CHIP 1/16W 1K	
R310	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R311	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R313	ERJ3GEYJ4R7V	MGF CHIP 1/16W 4.7	
R314	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R315	D0HB221ZA002	MGF CHIP 1/16W 220	
R316	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R317	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R318	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R319	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R320	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R321	D0HB242ZA002	MGF CHIP 1/16W 2.4K	
R322	D0HB152ZA002	MGF CHIP 1/16W 1.5K	
R323	ERJ3GEYJ912V	MGF CHIP 1/16W 9.1K	
R324	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R325	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R326	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R327	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R333	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R336	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R340	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R341	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R342	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R343	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R344	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R345	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R346	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R347	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R348	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R349	ERJ3GEYJ304V	MGF CHIP 1/16W 300K	
R350	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R351	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R352	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R353	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R355	ERJ3GEYJ304V	MGF CHIP 1/16W 300K	
R356	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R357	ERJ3GEYJ474V	MGF CHIP 1/16W 470K	
R358	ERJ3GEYJ123V	MGF CHIP 1/16W 12K	
R359	ERJ3GEYJ123V	MGF CHIP 1/16W 12K	
R360	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R361	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R362	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R363	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R364	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R365	ERJ3GEYK395V	MGF CHIP 1/16W 3.9M	
R366	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R367	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R368	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R369	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R370	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R372	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R373	ERJ3GEYJ303V	MGF CHIP 1/16W 30K	
R374	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R375	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R376	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R377	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R378	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R379	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R380	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R381	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R382	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R383	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R384	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R385	ERJ3GEYJ101V	MGF CHIP 1/16W 100	

Ref. No.	Part No.	Part Name & Description	Remarks
R387	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R388	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R391	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R393	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R394	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R399	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R400	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R402	D0HB912ZA002	MGF CHIP 1/16W 9.1K	
R409	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R410	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R411	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R412	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R413	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R414	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R427	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R432	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R436	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R603	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R608	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R609	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R616	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R617	ERJ3GEYJ121V	MGF CHIP 1/16W 120	
R618	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R623	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R625	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R639	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R641	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R643	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R644	ERJ3GEYJ330V	MGF CHIP 1/16W 33	
R645	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R646	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R651	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R652	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R653	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R659	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R662	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R683	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R700	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R701	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R702	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R703	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R704	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R705	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R706	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R707	ERJ8GEYJ101V	MGF CHIP 1/8W 100	
R708	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R709	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R712	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R713	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R714	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R715	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R718	ERJ3GEYJ512V	MGF CHIP 1/16W 5.1K	
R719	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R720	ERJ3GEYJ114V	MGF CHIP 1/16W 110K	
R721	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R722	ERJ3GEYJ114V	MGF CHIP 1/16W 110K	
R723	ERJ3GEYJ363V	MGF CHIP 1/16W 36K	
R724	ERJ3GEYJ363V	MGF CHIP 1/16W 36K	
R726	ERJ3GEYJ512V	MGF CHIP 1/16W 5.1K	
R730	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R732	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R735	ERJ3GEYJ363V	MGF CHIP 1/16W 36K	
R736	ERJ3GEYJ363V	MGF CHIP 1/16W 36K	
R737	ERJ3GEYJ114V	MGF CHIP 1/16W 110K	
R738	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R739	ERJ3GEYJ114V	MGF CHIP 1/16W 110K	
R740	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R744	ERJ8GEYJ3R9V	MGF CHIP 1/8W 3.9	
R745	ERJ8GEYJ3R9V	MGF CHIP 1/8W 3.9	
R746	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R747	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R748	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R749	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	

Ref. No.	Part No.	Part Name & Description	Remarks
R750	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R751	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R752	ERJ3EKF1002V	MGF CHIP 1/16W 10K	
R753	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R901	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R902	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R903	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R904	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R905	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R906	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R907	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R908	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R909	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R910	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R911	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R914	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R915	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R916	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R920	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R921	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R1003	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R1004	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R1005	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1006	D0HB123ZA002	MGF CHIP 1/16W 12K	
R1007	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R1008	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1009	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R1010	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R1011	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1012	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R1013	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R1014	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1015	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R1016	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R1017	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R1018	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R1019	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R1020	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1023	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1031	D0HB273ZA002	MGF CHIP 1/16W 27K	
R1032	D0HB103ZA002	MGF CHIP 1/16W 10K	
R1033	D0HB101ZA002	MGF CHIP 1/16W 100	
R1034	D0HB203ZA002	MGF CHIP 1/16W 20K	
R1035	D0HB103ZA002	MGF CHIP 1/16W 10K	
R1036	D0HB751ZA002	MGF CHIP 1/16W 750	
R1037	D0HB104ZA002	MGF CHIP 1/16W 100K	
R1038	D0HB822ZA002	MGF CHIP 1/16W 8.2K	
R1039	D0HB751ZA002	MGF CHIP 1/16W 750	
R1040	D0HB273ZA002	MGF CHIP 1/16W 27K	
R1041	D0HB103ZA002	MGF CHIP 1/16W 10K	
R1043	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R1044	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1045	ERJ6GEYJ271V	MGF CHIP 1/10W 270	
R1046	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R1047	ERJ3GEYJ330V	MGF CHIP 1/16W 33	
R1060	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R1084	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1085	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R1086	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1087	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R1101	ERJ8GEYJR56V	MGF CHIP 1/8W 0.56	
R1102	ERJ8GEYJR56V	MGF CHIP 1/8W 0.56	
R1103	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1104	ERJ3GEYJ560V	MGF CHIP 1/16W 470	
R1105	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R1106	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R1107	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R1108	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R1109	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R1110	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1111	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1114	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R1115	ERJ3GEYJ824V	MGF CHIP 1/16W 820K	

Ref. No.	Part No.	Part Name & Description	Remarks
R1601	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R1602	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R1603	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R1610	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R1611	ERJ3GEYJ683V	MGF CHIP 1/16W 68K	
R1612	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1613	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1614	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R1615	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R2001	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R2003	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2004	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R2008	ERJ8GEYJR33V	MGF CHIP 1/8W 0.33	
R2010	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2011	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R2012	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R2013	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R2014	ERJ3GEYJ684V	MGF CHIP 1/16W 680K	
R2015	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R2016	ERJ3GEYJ684V	MGF CHIP 1/16W 680K	
R2021	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2022	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R2023	ERJ8GEYJR33V	MGF CHIP 1/8W 0.33	
R2025	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2026	ERJ3GEYJ820V	MGF CHIP 1/16W 82	
R2027	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R2028	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R2029	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R2030	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R2031	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2032	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2047	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2048	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3002	ERJ3GEYJ154V	MGF CHIP 1/16W 150K	
R3003	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R3004	ERJ3GEYJ270V	MGF CHIP 1/16W 27	
R3005	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3006	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3008	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R3009	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R3010	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R3011	ERJ3GEYJ271V	MGF CHIP 1/16W 270	
R3015	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R3016	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3017	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3018	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R3022	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3023	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3024	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R3025	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3026	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3031	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3032	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3033	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R3034	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3035	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R3036	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R3037	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R3038	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R3039	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3040	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R3041	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R3044	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R3045	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3048	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R3050	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3129	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R3130	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R3140	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R3150	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R3151	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3152	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3153	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	

Ref. No.	Part No.	Part Name & Description	Remarks
R3154	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R3180	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3181	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3182	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3183	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R3184	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3185	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R3186	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R3215	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R4002	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4003	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R4006	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R4007	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4009	ERJ3GEYJ2R2V	MGF CHIP 1/16W 2.2	
R4010	ERJ3GEYJ2R2V	MGF CHIP 1/16W 2.2	
R4011	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4012	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R4013	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R4014	ERJ3GEYJ433V	MGF CHIP 1/16W 43K	
R4015	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R4016	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R4017	ERJ3GEYJ123V	MGF CHIP 1/16W 12K	
R4018	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R4019	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R4020	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R4021	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R4022	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R4024	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R4025	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R4026	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R4027	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R4029	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4030	ERJ3GEYJ680V	MGF CHIP 1/16W 68	
R4031	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R4032	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R4033	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R4034	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R4035	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4037	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4040	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R4041	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R4042	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R4043	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R4044	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R4045	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R4046	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4047	ERJ3GEYJ683V	MGF CHIP 1/16W 68K	
R4050	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R4051	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4052	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R4053	ERJ3GEYJ823V	MGF CHIP 1/16W 82K	
R4054	ERJ3GEYJ433V	MGF CHIP 1/16W 43K	
R4056	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4057	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R4058	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6004	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R6006	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6009	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6010	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6011	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R6015	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R6016	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6017	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6018	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6019	ERJ3GEYJ474V	MGF CHIP 1/16W 470K	
R6020	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6021	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6024	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R6025	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6026	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6027	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R6028	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R6029	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	

Ref. No.	Part No.	Part Name & Description	Remarks
R6030	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R6032	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6034	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R6035	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6036	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R6037	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6038	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6039	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6040	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R6041	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6042	ERJ3GEYJ124V	MGF CHIP 1/16W 120K	
R6046	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6047	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6048	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6049	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6050	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6051	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6052	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6054	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6056	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6058	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6059	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6060	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6062	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6064	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R6066	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R6068	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6070	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6072	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R6073	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6074	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6081	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6082	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6084	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R6085	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R6086	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R6087	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R6088	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R6089	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6090	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6091	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6092	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6093	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6094	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6095	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R6096	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R6097	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6099	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6102	D0HB183ZA002	MGF CHIP 1/16W 18K	
R6103	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R6104	D0HB103ZA002	MGF CHIP 1/16W 10K	
R6108	ERJ3GEYJ224V	MGF CHIP 1/16W 220K	
R6110	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6111	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6112	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6113	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R6114	ERJ3GEYJ154V	MGF CHIP 1/16W 150K	
R6115	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R6116	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R6119	ERJ8GEYJ101V	MGF CHIP 1/8W 100	
R6139	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R6143	ERJ3GEYJ271V	MGF CHIP 1/16W 270	
R6144	ERJ3GEYJ271V	MGF CHIP 1/16W 270	
R6145	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6146	ERJ3GEYJ224V	MGF CHIP 1/16W 220K	
R6147	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6148	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6149	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6191	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6201	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6202	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6209	ERJ3GEYJ225V	MGF CHIP 1/16W 2.2M	
R6210	ERJ3GEYJ561V	MGF CHIP 1/16W 560	

Ref. No.	Part No.	Part Name & Description	Remarks
R6215	ERJ3GEYJ132V	MGF CHIP 1/16W 1.3K	
R6217	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C301	ECJ1VCLH330J	C CHIP 50V 33PF	
C302	ECJ1VCLH560J	C CHIP 50V 56PF	
C305	ECJ1VCLH470J	C CHIP 50V 47PF	
C306	ECJ2VB1C104K	C CHIP 16V 0.1UF	
C307	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C309	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C310	ECJ2YB1A105K	C CHIP 10V 1UF	
C311	ECJ2YB1A105K	C CHIP 10V 1UF	
C312	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C314	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C316	ECJ2YB1A105K	C CHIP 10V 1UF	
C317	ECJ2YB1A105K	C CHIP 10V 1UF	
C319	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C320	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C326	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C327	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C331	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C333	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C335	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C338	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C339	ECJ2VF1C105Z	C CHIP 16V 1UF	
C340	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C341	ECJ1VB1H102K	C CHIP 50V 1000PF	
C342	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C345	ECJ1VB1H471K	C CHIP 50V 470PF	
C346	ECJ1VB1H471K	C CHIP 50V 470PF	
C347	ECJ1VB1H102K	C CHIP 50V 1000PF	
C357	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C359	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C360	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C605	ECST0JX226	TANTALUM CHIP 6.3V 22UH	
C606	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C607	ECJ1VCLH150J	C CHIP 50V 15PF	
C611	ECJ1VCLH120J	C CHIP 50V 12PF	
C613	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C614	FLJ1C1050011	C CHIP 16V 1UF	
C615	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C616	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C617	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C618	ECJ1VCLH080D	C CHIP 50V 8PF	
C619	ECJ1VCLH020D	C CHIP 50V 2PF	
C623	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10UF	
C633	FLJ1C1050011	C CHIP 16V 1UF	
C634	FLJ1C1050011	C CHIP 16V 1UF	
C636	ECJ1VF1A105Z	C CHIP 10V 1UF	
C638	ECJ1VF1A105Z	C CHIP 10V 1UF	
C639	ECJ1VF1A105Z	C CHIP 10V 1UF	
C640	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C641	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C642	ECJ2YB1A105K	C CHIP 10V 1UF	
C643	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C644	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C645	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C646	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C647	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C663	ECJ1VCLH100D	C CHIP 50V 10PF	
C703	ECJ2YF1A475Z	C CHIP 10V 4.7UF	
C704	ECJ2YF1A475Z	C CHIP 10V 4.7UF	
C706	ECJ2YF1A475Z	C CHIP 10V 4.7UF	
C707	ECJ2YF1A475Z	C CHIP 10V 4.7UF	
C708	ECEV1CA470S	ELECTROLYTIC CHIP 16V 47UF	
C709	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C710	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C901	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C902	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C903	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C908	ECJ1VB0J474K	C CHIP 6.3V 0.47UF	
C909	ECJ1VB1H103K	C CHIP 50V 0.01UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C910	ECJ1VB0J334K	C CHIP	
C912	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C913	ECST1CY475	TANTALUM CHIP 16V 4.7UF	
C914	ECJ1VB1H682K	C CHIP 50V 6800PF	
C915	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C916	ECJ2YB1A105K	C CHIP 10V 1UF	
C917	ECJ1VB0J474K	C CHIP 6.3V 0.47UF	
C919	ECJ1VB0J474K	C CHIP 6.3V 0.47UF	
C922	ECJ1VB1A105K	C CHIP 10V 1UF	
C923	ECJ1VB0J334K	C CHIP 6.3V 0.34UF	
C924	ECJ1VB1E223K	C CHIP 25V 0.022UF	
C1001	ECJ1VB1E223K	C CHIP 25V 0.022UF	
C1002	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C1003	ECJ1VC1H101J	C CHIP 50V 100PF	
C1004	ECJ1VB1E223K	C CHIP 25V 0.022UF	
C1005	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C1007	ECJ1VB1H222K	C CHIP 50V 2200PF	
C1009	ECJ1VB1H222K	C CHIP 50V 2200PF	
C1011	ECJ1VB1H153K	C CHIP 50V 0.015UF	
C1012	ECJ1VB1H222K	C CHIP 50V 2200PF	
C1013	ECJ2VF1C105Z	C CHIP 16V 1UF	
C1014	ECJ2VF1C105Z	C CHIP 16V 1UF	
C1016	ECJ1VB1H222K	C CHIP 50V 2200PF	
C1017	ECJ1VB1H153K	C CHIP 50V 0.015UF	
C1018	ECJ1VB1E223K	C CHIP 25V 0.022UF	
C1020	ECJ2FB1C105K	C CHIP 16V 1UF	
C1021	ECEV1CA470S	ELECTROLYTIC CHIP 16V 47UF	
C1022	ECJ3YB1C475K	C CHIP 16V 4.7UF	
C1023	ECJ2FB0J475K	C CHIP 6.3V 4.7UF	
C1024	ECST1AY475	TANTALUM CHIP 16V 4.7UF	
C1025	ECJ1VB1H471K	C CHIP 50V 470PF	
C1026	ECJ2FB0J475K	C CHIP 6.3V 4.7UF	
C1028	ECJ1VB1H102K	C CHIP 50V 1000PF	
C1029	ECJ2FB1C105K	C CHIP 16V 1UF	
C1030	ECJ2VF1C105Z	C CHIP 16V 1UF	
C1031	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10UF	
C1032	ECJ2VF1C105Z	C CHIP 16V 1UF	
C1033	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C1034	ECJ2FB1C105K	C CHIP 16V 1UF	
C1035	ECJ2FB1C105K	C CHIP 16V 1UF	
C1036	ECJ1VB1H471K	C CHIP 50V 470PF	
C1037	FLJ0J4750004	C CHIP 6.3V 0.47UF	
C1039	ECJ1VB1H102K	C CHIP 50V 1000PF	
C1040	ECJ2VF1C105Z	C CHIP 16V 1UF	
C1041	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10UF	
C1042	ECEV0JA470S	ELECTROLYTIC CHIP 6.3V 47UF	
C1044	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C1045	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1046	ECJ2VF1C105Z	C CHIP 16V 1UF	
C1049	ECJ1VB1H102K	C CHIP 50V 1000PF	
C1055	ECJ2VF1C105Z	C CHIP 16V 1UF	
C1060	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1065	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C1101	ECJ2FB1A225K	C CHIP 10V 22UF	
C1102	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C2001	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C2002	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C2003	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C2007	ECEV0JA220S	ELECTROLYTIC CHIP 6.3V 22UF	
C2008	ECJ2VB1E333K	C CHIP 25V 0.033UF	
C2010	ECJ1VB1C683K	C CHIP 16V 0.068UF	
C2011	ECJ2YB1C334K	C CHIP 16V 0.33UF	
C2012	ECJ1VB1C473K	C CHIP 16V 0.047UF	
C2013	ECJ1VB1C473K	C CHIP 16V 0.047UF	
C2015	ECJ1VB1H152K	C CHIP 50V 1500PF	
C2016	ECJ1VC1H561J	C CHIP 50V 560PF	
C2017	ECJ2YB1A105K	C CHIP 10V 1UF	
C2021	ECJ1VF1H473Z	C CHIP 50V 0.047UF	
C2022	ECJ2VF1E473Z	C CHIP 25V 0.047UF	
C2023	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C2024	ECJ2YB1A105K	C CHIP 10V 1UF	
C2025	ECJ1VB1E103K	C CHIP 25V 0.01UF	
C2030	ECJ1VF1C104Z	C CHIP 16V 0.1UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C2031	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C2032	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C2040	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10UF	
C2045	ECJ1VB1E103K	C CHIP 25V 0.01UF	
C2046	ECJ1VB1E103K	C CHIP 25V 0.01UF	
C3001	FLJ0J335A002	C CHIP 6.3V 3.3UF	
C3002	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3003	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C3005	ECJ1VC1H220J	C CHIP 50V 22PF	
C3006	ECJ1VB1H332K	C CHIP 50V 3300PF	
C3007	ECJ2VF1H104Z	C CHIP 50V 0.1UF	
C3008	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C3009	ECJ2VF1H104Z	C CHIP 50V 0.1UF	
C3010	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3011	ECJ1VC1H221J	C CHIP 50V 220PF	
C3012	ECJ1VB1H821K	C CHIP 50V 820PF	
C3013	ECJ1VC1H560J	C CHIP 50V 56PF	
C3014	ECJ1VC1H331J	C CHIP 50V 330PF	
C3015	ECJ1VC1H561J	C CHIP 50V 560PF	
C3017	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3018	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C3019	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3021	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C3022	ECJ2YB1A105K	C CHIP 10V 1UF	
C3023	ECJ1VB1C473K	C CHIP 16V 0.047UF	
C3024	ECJ2VF1C105Z	C CHIP 16V 1UF	
C3025	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C3028	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C3029	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C3030	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3031	ECJ1VB1A224K	C CHIP 10V 0.22UF	
C3032	ECJ1VB1H332K	C CHIP 50V 3300PF	
C3033	ECJ2YB0J225K	C CHIP 6.3V 2.2UF	
C3034	ECJ2VF1C105Z	C CHIP 16V 1UF	
C3036	FLK1C4750017	C CHIP 16V 4.7UF	
C3038	ECJ1VC1H560J	C CHIP 50V 56PF	
C3039	ECJ1VC1H150J	C CHIP 50V 15PF	
C3040	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3041	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C3042	ECEV0JA220S	ELECTROLYTIC CHIP 6.3V 22UF	
C3043	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C3045	ECEV1HA3R3S	ELECTROLYTIC CHIP 50V 3.3UF	
C3046	ECEV0GA221S	ELECTROLYTIC CHIP 4V 220UF	
C3047	ECJ2YB1A105K	C CHIP 10V 1UF	
C3048	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3053	ECJ1VC1H390J	C CHIP 50V 39PF	
C3054	ECJ1VC1H101J	C CHIP 50V 100PF	
C3055	ECJ1VC1H181J	C CHIP 50V 180PF	
C3057	ECJ1VC1H180J	C CHIP 50V 18PF	
C3058	ECJ1VC1H120J	C CHIP 50V 12PF	
C3059	ECJ1VC1H100D	C CHIP 50V 10PF	
C3060	ECJ1VC1H120J	C CHIP 50V 12PF	
C3061	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3068	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3070	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C3072	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C3073	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C3074	ECEV0JA220S	ELECTROLYTIC CHIP 6.3V 22UF	
C3075	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C3077	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3078	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3079	ECJ1VB1H102K	C CHIP 50V 1000PF	
C3080	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3081	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3085	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C3098	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C3107	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3132	ECJ2VF1C105Z	C CHIP 16V 1UF	
C3135	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3139	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3150	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3152	ECJ1VB1H681K	C CHIP 50V 680PF	
C3153	ECJ1VB1H681K	C CHIP 50V 680PF	

Ref. No.	Part No.	Part Name & Description	Remarks
C3157	ECJ1VC1H470J	C CHIP 50V 47PF	
C3158	ECJ1VC1H080C	C CHIP 50V 8PF	
C4002	ECJ2FB1C105K	C CHIP 16V 1UF	
C4003	ECJ1VB1H102K	C CHIP 50V 1000PF	
C4004	ECUT2A472JCW	C CHIP 100V 4700PF	
C4005	ECJ2VB1H682K	C CHIP 50V 6800PF	
C4006	ECJ1VB1E223K	C CHIP 25V 0.022UF	
C4007	ECJ2FB1C105K	C CHIP 16V 1UF	
C4008	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C4009	ECJ2VF1H104Z	C CHIP 50V 0.1UF	
C4011	ECJ1VB1H472K	C CHIP 50V 4700PF	
C4012	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C4013	ECJ1VF1E104Z	C CHIP 25V 0.1UF	
C4014	ECJ1VF1E104Z	C CHIP 25V 0.1UF	
C4015	ECJ2VF1E104Z	C CHIP 25V 0.1UF	
C4016	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C4017	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C4019	ECJ2FB1C105K	C CHIP 16V 1UF	
C4021	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10UF	
C4022	ECJ2YB1C474K	C CHIP 16V 0.47UF	
C4023	ECST0JY475	TANTALUM CHIP 6.3V 4.7UF	
C4026	ECJ2VB1C104K	C CHIP 16V 0.1UF	
C4027	ECJ1VB1H153K	C CHIP 50V 0.015UF	
C4028	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C4030	ECST0JY475	TANTALUM CHIP 6.3V 4.7UF	
C4031	ECJ1VB1H122K	C CHIP 50V 1200PF	
C4032	ECJ2FB1C105K	C CHIP 16V 1UF	
C4033	ECJ1VB1H272K	C CHIP 50V 2700PF	
C4034	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C4035	ECJ2VF1C105Z	C CHIP 16V 1UF	
C4036	ECJ2VF1C105Z	C CHIP 16V 1UF	
C4039	ECJ2VB1C104K	C CHIP 16V 0.1UF	
C4041	ECJ1VB1H222K	C CHIP 50V 2200PF	
C6001	ECJ1VC1H330J	C CHIP 50V 33PF	
C6002	ECJ1VB1A224K	C CHIP 10V 0.22UF	
C6004	ECJ2VF1C105Z	C CHIP 16V 1UF	
C6006	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C6007	ECJ1VC1H120J	C CHIP 50V 12PF	
C6008	ECJ1VC1H100D	C CHIP 50V 10PF	
C6009	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C6011	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C6013	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C6014	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C6017	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C6018	ECJ2VF1H104Z	C CHIP 50V 0.1UF	
C6020	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C6022	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C6023	ECJ1VB1H102K	C CHIP 50V 1000PF	
C6025	ECEV0JA470S	ELECTROLYTIC CHIP 6.3V 47UF	
C6028	ECJ1VC1H060D	C CHIP 50V 6PF	
C6029	ECJ2VF1C105Z	C CHIP 16V 1UF	
C6031	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C6044	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C6201	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C6202	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C6207	ECJ1VC1H101J	C CHIP 50V 100PF	
C6208	ECJ2VF1C224Z	C CHIP 16V 0.22UF	
C6214	ECJ1VB1H102K	C CHIP 50V 1000PF	
C6220	ECJ2YF1C155Z	C CHIP 16V 1.5UF	
C6221	ECJ1VB1H102K	C CHIP 50V 1000PF	
C6222	ECJ2YB1A105K	C CHIP 10V 1UF	
C6223	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C6225	ECJ1VB1H103K	C CHIP 50V 0.01UF	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L302	G1C470JA0041	COIL CHIP 47UH	
L303	G1C330JA0041	COIL CHIP 33UH	
L305	G1C3R9JA0041	COIL CHIP 3.9UH	
L307	G1C101JA0036	COIL CHIP 100HF	
L308	G1C100K00031	COIL CHIP 10UH	
L602	G1C150JA0041	COIL CHIP 15UH	
L605	G1C120JA0041	COIL CHIP 12UH	

Ref. No.	Part No.	Part Name & Description	Remarks
L901	G1C150JA0041	COIL CHIP 15UH	
L1001	G1C100MA0112	COIL CHIP 10UH	
L1002	G1C100MA0112	COIL CHIP 10UH	
L1003	G1C330MA0112	COIL CHIP 33UH	
L1004	G1C330MA0112	COIL CHIP 33UH	
L1005	G1C100MA0065	CHOKER COIL 10UH	
L1006	G1C100MA0031	COIL CHIP 10UH	
L1007	G1C100MA0031	COIL CHIP 10UH	
L1008	G1C100MA0031	COIL CHIP 10UH	
L1009	G1C470JA0041	COIL CHIP 47UH	
L1010	G1C470JA0041	COIL CHIP 47UH	
L1011	G1C470JA0041	COIL CHIP 47UH	
L1012	G1C100MA0031	COIL CHIP 10UH	
L1014	G1C100MA0031	COIL CHIP 10UH	
L1015	G1C100MA0031	COIL CHIP 10UH	
L1017	G1C330MA0112	COIL CHIP 33UH	
L1019	G1C100MA0031	COIL CHIP 10UH	
L1020	G1C100MA0031	COIL CHIP 10UH	
L1600	J0JBC0000014	BEAD INDUCTOR	
L3001	G1C220K00013	COIL CHIP 22UH	
L3002	G1C220K00013	COIL CHIP 22UH	
L3003	G1C220K00013	COIL CHIP 22UH	
L3004	G1C220K00013	COIL CHIP 22UH	
L3006	G1C220K00013	COIL CHIP 22UH	
L3009	G1C820JA0041	COIL CHIP 82UH	
L3011	G1C470JA0041	COIL CHIP 47UH	
L3012	G1C120JA0041	COIL CHIP 12UH	
L3013	G1C331JA0036	COIL CHIP 330UH	
L3014	G1C180JA0041	COIL CHIP 18UH	
L3015	G1C331JA0036	COIL CHIP 330UH	
L3016	G1C470JA0041	COIL CHIP 47UH	
L3017	G1C331JA0036	COIL CHIP 330UH	
L3030	G1C220K00013	COIL CHIP 22UH	
L3031	G1C470JA0041	COIL CHIP 47UH	
L4001	G1C221K00012	COIL CHIP 220UH	
L4002	G1C101K00033	COIL CHIP 100UH	

CRYSTAL OSCILLATOR

Ref. No.	Part No.	Part Name & Description	Remarks
X601	H0A286500001	CRYSTAL OSCILLATOR	
X3001	H0D143500033	CRYSTAL OSCILLATOR	
X6001	H0A143500002	CRYSTAL OSCILLATOR	
X6002	H0A327200095	CRYSTAL OSCILLATOR	

FPC CONNECTORS

Ref. No.	Part No.	Part Name & Description	Remarks
FP1	K1MN28B00060	CONNECTOR 28P	
FP2	K1MN14A00084	CONNECTOR 14P	
FP6	K1MN28B00060	CONNECTOR 28P	
FP7	K1MN14A00086	CONNECTOR 14P	
FP8	K1MN12A00070	CONNECTOR 12P	
FP9	K1MN22A00064	CONNECTOR 22P	
FP10	K1MN26A00058	CONNECTOR 26P	
FP11	K1MN06A00036	CONNECTOR 6P	
FP12	K1MN06B00116	CONNECTOR 6P	
FP13	K1MN16B00004	CONNECTOR 16P	
FP901	K1MN16B00131	CONNECTOR 16P	

FUSE & PROTECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
F1001	K5H252Z00003	FUSE CHIP 32V 2.5A	△
F1002	K5H202Z00005	FUSE CHIP 32V 2A	△

TRANSFORMER

Ref. No.	Part No.	Part Name & Description	Remarks
T1001	G5DYA0000042	TRANSFORMER	
T4001	EQQ7QE025Q	TRANSFORMER	

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
707	VMTS0035	CUSHION, RUBBER	

Ref. No.	Part No.	Part Name & Description	Remarks
712	LSMF0220	SHEET, NYLON-RAYON	

13.3.2. MAIN C.B.A.

(MODEL: C)

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L354	A
PV-L354-K	B
PV-L454	C

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC301	MN673242	IC, LOGIC	E.S.D.
IC306	C3EBEG000047	IC, 4K EEP ROM	E.S.D.
IC308	C2DBJG000142	IC, 32BIT MICROCONTROLLER	E.S.D.
IC309	C0ABCZ000008	IC, LINEAR	
IC603	ClAB00000339	IC, LOGIC	E.S.D.
IC605	AN2109NFHQ	IC, LINEAR	
IC701	C0GBC0000018	IC, LINEAR	
IC701	C0GBA0000011	IC, LINEAR	
IC701	LB1837MTL3	IC, LINEAR	
IC702	C0GBC0000018	IC, LINEAR	
IC702	C0GBA0000011	IC, LINEAR	
IC702	LB1837MTL3	IC, LINEAR	
IC901	C0HBA0000151	IC, LINEAR	
IC1001	C0DBAZZ000064	IC, LINEAR	
IC2001	AN3897FH-V	IC, LINEAR	
IC2002	UNA022400L	IC, LINEAR	
IC2003	UNA022400L	IC, LINEAR	
IC3001	AN2401NFH	IC, LINEAR	
IC3002	MN38663S-E1	IC, LOGIC	E.S.D.
IC4001	AN12998A-V	IC, LINEAR	
IC6001	MN101D06FWH	IC, 8BIT MICROCONTROLLER	E.S.D.
IC6002	C0EBG0000135	IC, LINEAR	
IC6002	C0EBG0000111	IC, LINEAR	
IC6005	ClZBZ0002198	IC, PERIPHERAL MCU	E.S.D.
IC6006	C0CBACE00012	IC, PERIPHERAL MCU	E.S.D.
IC6007	C0GBG0000029	IC, LINEAR	
IC6203	CNB10010RL	TAKEUP REEL SENSOR	

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q301	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q301	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q301	BlABCF000112	TRANSISTOR SI NPN CHIP	
Q302	BlABAD000010	TRANSISTOR SI NPN CHIP	
Q302	2SC4215-YTL	TRANSISTOR SI NPN CHIP	
Q303	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q303	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q303	BlABCF000112	TRANSISTOR SI NPN CHIP	
Q305	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q305	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q305	BlABCF000112	TRANSISTOR SI NPN CHIP	
Q306	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q306	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q306	BlADCF000075	TRANSISTOR SI PNP CHIP	
Q307	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q307	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q307	BlADCF000075	TRANSISTOR SI PNP CHIP	
Q310	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q310	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q310	BlABCF000112	TRANSISTOR SI NPN CHIP	
Q311	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q311	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q311	BlABCF000112	TRANSISTOR SI NPN CHIP	

Ref. No.	Part No.	Part Name & Description	Remarks
Q617	UNR521500L	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q617	B1GBCFJA0006	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q617	B1GBCFJA0013	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q703	UNR521100L	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q703	B1GBCFJJ0007	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q703	B1GBCFJJ0035	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q703	B1GBBFJJ0001	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q901	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q901	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q901	BlABCF000112	TRANSISTOR SI NPN CHIP	
Q902	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q902	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q902	BlABCF000112	TRANSISTOR SI NPN CHIP	
Q903	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q903	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q903	BlABCF000112	TRANSISTOR SI NPN CHIP	
Q904	UNR521300L	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q904	B1GBCFNN0009	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q904	B1GBCFNN0031	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q905	UNR511400L	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q905	B1GDCFJN0011	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q905	B1GDCFJN0019	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1001	UNR511100L	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1001	B1GDCFJJ0008	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1001	B1GDBFJJ0001	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1001	B1GDCFJJ0030	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1002	UNR511300L	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1002	B1GDCFNN0007	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1002	B1GDCFNN0021	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1003	UNR511500L	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1003	B1GDCFJJ0025	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1003	B1GDCFJA0017	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1005	B1DHCC000034	TRANSISTOR FET	
Q1006	B1ZBZ0000038	TRANSISTOR SI	
Q1007	B1DFCG000011	TRANSISTOR FET	
Q1008	B1DHCC000034	TRANSISTOR FET	
Q1009	B1ZBZ0000040	TRANSISTOR SI	
Q1010	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q1010	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q1010	BlADCF000075	TRANSISTOR SI PNP CHIP	
Q1011	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q1011	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q1011	BlABCF000112	TRANSISTOR SI NPN CHIP	
Q1012	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q1012	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q1012	BlABCF000112	TRANSISTOR SI NPN CHIP	
Q1015	BlABCF000098	TRANSISTOR SI NPN CHIP	
Q1015	BlABCF000099	TRANSISTOR SI NPN CHIP	
Q1018	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q1018	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q1018	BlADCF000075	TRANSISTOR SI PNP CHIP	
Q1019	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q1019	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q1019	BlADCF000075	TRANSISTOR SI PNP CHIP	

Ref. No.	Part No.	Part Name & Description	Remarks
Q1101	B1BDEB000001	TRANSISTOR SI PNP CHIP	
Q1102	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q1102	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q1102	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q1103	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q1103	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q1103	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q1105	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q1105	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q1105	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q3003	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q3003	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q3003	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q3004	B1ABAD000010	TRANSISTOR SI NPN CHIP	
Q3004	2SC4215-YTL	TRANSISTOR SI NPN CHIP	
Q3005	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q3005	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q3005	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q3027	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q3027	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q3027	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q4001	XP0460100L	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q4001	B1HFCFA00003	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q4001	B1HFCFA00009	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q4001	B1HFCFA00017	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q4002	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q4002	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q4002	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q4003	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q4003	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q4003	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q4005	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q4005	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q4005	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q4006	2SD06020RL	TRANSISTOR SI NPN CHIP	
Q4006	2SD06020ARL	TRANSISTOR SI NPN CHIP	
Q4006	B1ABGD000012	TRANSISTOR SI NPN CHIP	
Q4007	2SB09700RL	TRANSISTOR SI PNP CHIP	
Q4007	2SB1585	TRANSISTOR SI PNP CHIP	
Q4008	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q4008	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q4008	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q4009	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q4009	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q4009	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q6004	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q6004	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q6004	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q6008	UNR521700L	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q6008	B1GBCFLA0006	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q6008	B1GBCFLA0008	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q6010	UNR521200L	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q6010	B1GBCFLL0012	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q6010	B1GBCFLL0026	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q6012	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q6012	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q6012	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q6013	2SD0601A0L	TRANSISTOR SI NPN CHIP	
Q6013	B1ABCF000011	TRANSISTOR SI NPN CHIP	
Q6013	B1ABCF000106	TRANSISTOR SI NPN CHIP	
Q6013	B1ABCC000004	TRANSISTOR SI NPN CHIP	
Q6021	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q6021	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q6021	B1ADCF000075	TRANSISTOR SI PNP CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D601	MA2J11100L	DIODE SI CHIP	
D601	B0ACCK000005	DIODE SI CHIP	
D701	MA2J11100L	DIODE SI CHIP	
D701	B0ACCK000005	DIODE SI CHIP	
D901	MAZ80750ML	DIODE ZENER CHIP 7.5V	
D1004	B0JCMD000014	DIODE SI CHIP	
D1005	MA2J11100L	DIODE SI CHIP	
D1005	B0ACCK000005	DIODE SI CHIP	
D1007	MA2J11100L	DIODE SI CHIP	
D1007	B0ACCK000005	DIODE SI CHIP	
D1008	MA2J11100L	DIODE SI CHIP	
D1008	B0ACCK000005	DIODE SI CHIP	
D1009	B0JCMD000014	DIODE SI CHIP	
D1010	MA2J11100L	DIODE SI CHIP	
D1010	B0ACCK000005	DIODE SI CHIP	
D1012	MAZ80680HL	DIODE ZENER CHIP 6.8V	
D1101	B0BC01200021	DIODE ZENER CHIP 12V	
D1102	MA2J11100L	DIODE SI CHIP	
D1102	B0ACCK000005	DIODE SI CHIP	
D1103	MAZ3120D0L	DIODE ZENER CHIP 12V	
D3006	MA2S35700K8	DIODE SI CHIP	
D3006	B0CAAC000005	DIODE SI CHIP	
D3006	MA2S357-TX	DIODE SI CHIP	
D6001	MA3J142E0L	DIODE SI CHIP	
D6001	B0ADCF000012	DIODE SI CHIP	
D6019	MA2J11100L	DIODE SI CHIP	
D6019	B0ACCK000005	DIODE SI CHIP	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R301	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R302	D0HB561ZA002	MGF CHIP 1/16W 560	
R303	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R304	D0HB222ZA002	MGF CHIP 1/16W 2.2K	
R305	D0HB222ZA002	MGF CHIP 1/16W 2.2K	
R306	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R307	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R308	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R309	D0HB102ZA002	MGF CHIP 1/16W 1K	
R310	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R311	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R313	ERJ3GEYJ4R7V	MGF CHIP 1/16W 4.7	
R314	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R315	D0HB221ZA002	MGF CHIP 1/16W 220	
R316	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R317	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R318	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R319	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R320	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R321	D0HB242ZA002	MGF CHIP 1/16W 2.4K	
R322	D0HB152ZA002	MGF CHIP 1/16W 1.5K	
R323	ERJ3GEYJ912V	MGF CHIP 1/16W 9.1K	
R324	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R325	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R326	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R327	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R333	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R336	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R340	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R341	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R342	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R343	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R344	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R345	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R346	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R347	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R348	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R349	ERJ3GEYJ304V	MGF CHIP 1/16W 300K	
R350	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R351	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R352	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R353	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	

Ref. No.	Part No.	Part Name & Description	Remarks
R355	ERJ3GEYJ304V	MGF CHIP 1/16W 300K	
R356	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R357	ERJ3GEYJ474V	MGF CHIP 1/16W 470K	
R358	ERJ3GEYJ123V	MGF CHIP 1/16W 12K	
R359	ERJ3GEYJ123V	MGF CHIP 1/16W 12K	
R360	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R361	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R362	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R363	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R364	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R365	ERJ3GEYK395V	MGF CHIP 1/16W 3.9M	
R366	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R367	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R368	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R369	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R370	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R372	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R373	ERJ3GEYJ303V	MGF CHIP 1/16W 30K	
R374	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R375	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R376	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R377	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R378	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R379	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R380	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R381	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R382	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R383	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R384	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R385	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R387	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R388	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R391	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R393	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R394	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R399	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R400	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R402	DOHB912ZA002	MGF CHIP 1/16W 9.1K	
R409	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R410	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R411	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R412	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R413	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R414	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R427	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R432	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R436	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R603	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R608	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R609	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R616	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R617	ERJ3GEYJ121V	MGF CHIP 1/16W 120	
R618	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R623	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R625	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R639	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R641	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R643	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R644	ERJ3GEYJ330V	MGF CHIP 1/16W 33	
R645	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R646	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R651	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R652	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R653	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R659	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R662	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R683	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R700	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R701	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R702	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R703	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R704	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R705	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	

Ref. No.	Part No.	Part Name & Description	Remarks
R706	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R707	ERJ8GEYJ101V	MGF CHIP 1/8W 100	
R708	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R709	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R712	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R713	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R714	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R715	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R718	ERJ3GEYJ512V	MGF CHIP 1/16W 5.1K	
R719	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R720	ERJ3GEYJ114V	MGF CHIP 1/16W 110K	
R721	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R722	ERJ3GEYJ114V	MGF CHIP 1/16W 110K	
R723	ERJ3GEYJ363V	MGF CHIP 1/16W 36K	
R724	ERJ3GEYJ363V	MGF CHIP 1/16W 36K	
R726	ERJ3GEYJ512V	MGF CHIP 1/16W 5.1K	
R730	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R732	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R735	ERJ3GEYJ363V	MGF CHIP 1/16W 36K	
R736	ERJ3GEYJ363V	MGF CHIP 1/16W 36K	
R737	ERJ3GEYJ114V	MGF CHIP 1/16W 110K	
R738	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R739	ERJ3GEYJ114V	MGF CHIP 1/16W 110K	
R740	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R744	ERJ8GEYJ3R9V	MGF CHIP 1/8W 3.9	
R745	ERJ8GEYJ3R9V	MGF CHIP 1/8W 3.9	
R746	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R747	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R748	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R749	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R750	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R751	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R752	ERJ3EKF1002V	MGF CHIP 1/16W 10K	
R753	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R901	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R902	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R903	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R904	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R905	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R906	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R907	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R908	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R909	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R911	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R912	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R913	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R914	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R915	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R917	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R918	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R919	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R920	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R922	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R923	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R924	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R925	ERJ3GEYJ274V	MGF CHIP 1/16W 270K	
R926	ERJ3GEYJ123V	MGF CHIP 1/16W 12K	
R1003	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R1004	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R1005	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1006	DOHB123ZA002	MGF CHIP 1/16W 12K	
R1007	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R1008	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1009	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R1010	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R1011	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1012	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R1013	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R1014	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1015	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R1016	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R1017	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R1018	ERJ3GEYJ220V	MGF CHIP 1/16W 22	

Ref. No.	Part No.	Part Name & Description	Remarks
R1019	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R1020	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1023	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1031	D0HB273ZA002	MGF CHIP 1/16W 27K	
R1032	D0HB103ZA002	MGF CHIP 1/16W 10K	
R1033	D0HB101ZA002	MGF CHIP 1/16W 100	
R1034	D0HB203ZA002	MGF CHIP 1/16W 20K	
R1035	D0HB103ZA002	MGF CHIP 1/16W 10K	
R1036	D0HB751ZA002	MGF CHIP 1/16W 750	
R1037	D0HB104ZA002	MGF CHIP 1/16W 100K	
R1038	D0HB822ZA002	MGF CHIP 1/16W 8.2K	
R1039	D0HB751ZA002	MGF CHIP 1/16W 750	
R1040	D0HB273ZA002	MGF CHIP 1/16W 27K	
R1041	D0HB103ZA002	MGF CHIP 1/16W 10K	
R1043	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R1044	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1045	ERJ6GEYJ271V	MGF CHIP 1/10W 270	
R1046	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R1047	ERJ3GEYJ330V	MGF CHIP 1/16W 33	
R1060	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R1084	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1085	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R1086	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1087	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R1101	ERJ8GEYJR56V	MGF CHIP 1/8W 0.56	
R1102	ERJ8GEYJR56V	MGF CHIP 1/8W 0.56	
R1103	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1104	ERJ3GEYJ560V	MGF CHIP 1/16W 470	
R1105	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R1106	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R1107	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R1108	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R1109	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R1110	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1111	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1114	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R1115	ERJ3GEYJ824V	MGF CHIP 1/16W 820K	
R1601	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R1602	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R1603	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R1610	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R1611	ERJ3GEYJ683V	MGF CHIP 1/16W 68K	
R1612	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1613	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1614	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R1615	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R2001	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R2003	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2004	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R2008	ERJ8GEYJR33V	MGF CHIP 1/8W 0.33	
R2010	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2011	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R2012	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R2013	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R2014	ERJ3GEYJ684V	MGF CHIP 1/16W 680K	
R2015	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R2016	ERJ3GEYJ684V	MGF CHIP 1/16W 680K	
R2021	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2022	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R2023	ERJ8GEYJR33V	MGF CHIP 1/8W 0.33	
R2025	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2026	ERJ3GEYJ820V	MGF CHIP 1/16W 82	
R2027	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R2028	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R2029	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R2030	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R2031	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2032	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2047	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2048	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3002	ERJ3GEYJ154V	MGF CHIP 1/16W 150K	
R3003	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R3004	ERJ3GEYJ270V	MGF CHIP 1/16W 27	

Ref. No.	Part No.	Part Name & Description	Remarks
R3005	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3006	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3008	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R3009	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R3010	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R3011	ERJ3GEYJ271V	MGF CHIP 1/16W 270	
R3015	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R3016	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3017	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3018	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R3022	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3023	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3024	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R3025	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3026	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3031	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3032	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3033	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R3034	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3035	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R3036	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R3037	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R3038	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R3039	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3040	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R3041	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R3044	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R3045	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3048	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R3050	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3129	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R3130	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R3140	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R3150	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R3151	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3152	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3153	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R3154	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R3180	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3181	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3182	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3183	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R3184	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3185	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R3186	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R3215	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R4002	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4003	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R4006	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R4007	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4009	ERJ3GEYJ2R2V	MGF CHIP 1/16W 2.2	
R4010	ERJ3GEYJ2R2V	MGF CHIP 1/16W 2.2	
R4011	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4012	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R4013	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R4014	ERJ3GEYJ433V	MGF CHIP 1/16W 43K	
R4015	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R4016	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R4017	ERJ3GEYJ123V	MGF CHIP 1/16W 12K	
R4018	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R4019	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R4020	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R4021	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R4022	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R4024	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R4025	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R4026	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R4027	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R4029	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4030	ERJ3GEYJ680V	MGF CHIP 1/16W 68	
R4031	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R4032	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R4033	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	

Ref. No.	Part No.	Part Name & Description	Remarks
R4034	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R4035	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4037	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4040	ERJ3GEYJ0R00V	MGF CHIP 1/16W 0	
R4041	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R4042	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R4043	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R4044	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R4045	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R4046	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4047	ERJ3GEYJ683V	MGF CHIP 1/16W 68K	
R4050	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R4051	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4052	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R4053	ERJ3GEYJ823V	MGF CHIP 1/16W 82K	
R4054	ERJ3GEYJ433V	MGF CHIP 1/16W 43K	
R4056	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4057	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R4058	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6004	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R6006	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6009	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6010	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6011	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R6015	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R6016	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6017	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6018	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6019	ERJ3GEYJ474V	MGF CHIP 1/16W 470K	
R6020	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6021	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6024	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R6025	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6026	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6027	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R6028	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R6029	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R6030	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R6032	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6034	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R6035	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6036	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R6037	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6038	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6039	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6040	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R6041	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6042	ERJ3GEYJ124V	MGF CHIP 1/16W 120K	
R6046	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6047	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6048	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6049	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6050	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6051	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6052	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6054	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6056	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6058	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6059	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6060	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6062	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6064	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R6066	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R6068	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6070	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6072	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R6073	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6074	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6081	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6082	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6084	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R6085	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R6086	ERJ3GEYJ561V	MGF CHIP 1/16W 560	

Ref. No.	Part No.	Part Name & Description	Remarks
R6087	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R6088	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R6089	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6090	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6091	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6092	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6093	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6094	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6095	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R6096	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R6097	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6099	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6102	D0HB183ZA002	MGF CHIP 1/16W 18K	
R6103	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R6104	D0HB103ZA002	MGF CHIP 1/16W 10K	
R6108	ERJ3GEYJ224V	MGF CHIP 1/16W 220K	
R6110	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6111	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6112	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6113	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R6114	ERJ3GEYJ154V	MGF CHIP 1/16W 150K	
R6115	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R6116	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R6119	ERJ8GEYJ101V	MGF CHIP 1/8W 100	
R6139	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R6143	ERJ3GEYJ271V	MGF CHIP 1/16W 270	
R6144	ERJ3GEYJ271V	MGF CHIP 1/16W 270	
R6145	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6146	ERJ3GEYJ224V	MGF CHIP 1/16W 220K	
R6147	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6148	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6149	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6191	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6201	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6202	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6209	ERJ3GEYJ225V	MGF CHIP 1/16W 2.2M	
R6210	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R6215	ERJ3GEYJ132V	MGF CHIP 1/16W 1.3K	
R6217	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C301	ECJ1VC1H330J	C CHIP 50V 33PF	
C302	ECJ1VC1H560J	C CHIP 50V 56PF	
C305	ECJ1VC1H470J	C CHIP 50V 47PF	
C306	ECJ2VB1C104K	C CHIP 16V 0.1UF	
C307	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C309	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C310	ECJ2YB1A105K	C CHIP 10V 1UF	
C311	ECJ2YB1A105K	C CHIP 10V 1UF	
C312	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C314	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C316	ECJ2YB1A105K	C CHIP 10V 1UF	
C317	ECJ2YB1A105K	C CHIP 10V 1UF	
C319	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C320	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C326	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C327	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C331	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C333	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C335	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C338	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C339	ECJ2VF1C105Z	C CHIP 16V 1UF	
C340	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C341	ECJ1VB1H102K	C CHIP 50V 1000PF	
C342	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C345	ECJ1VB1H471K	C CHIP 50V 470PF	
C346	ECJ1VB1H471K	C CHIP 50V 470PF	
C347	ECJ1VB1H102K	C CHIP 50V 1000PF	
C357	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C359	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C360	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C605	ECST0JX226	TANTALUM CHIP 6.3V 22UH	

Ref. No.	Part No.	Part Name & Description	Remarks
C606	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C607	ECJ1VC1H150J	C CHIP 50V 15PF	
C611	ECJ1VC1H120J	C CHIP 50V 12PF	
C613	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C614	FLJ1C1050011	C CHIP 16V 1UF	
C615	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C616	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C617	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C618	ECJ1VC1H080D	C CHIP 50V 8PF	
C619	ECJ1VC1H020D	C CHIP 50V 2PF	
C623	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10UF	
C633	FLJ1C1050011	C CHIP 16V 1UF	
C634	FLJ1C1050011	C CHIP 16V 1UF	
C636	ECJ1VF1A105Z	C CHIP 10V 1UF	
C638	ECJ1VF1A105Z	C CHIP 10V 1UF	
C639	ECJ1VF1A105Z	C CHIP 10V 1UF	
C640	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C641	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C642	ECJ2YB1A105K	C CHIP 10V 1UF	
C643	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C644	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C645	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C646	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C647	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C663	ECJ1VC1H100D	C CHIP 50V 10PF	
C703	ECJ2YF1A475Z	C CHIP 10V 4.7UF	
C704	ECJ2YF1A475Z	C CHIP 10V 4.7UF	
C706	ECJ2YF1A475Z	C CHIP 10V 4.7UF	
C707	ECJ2YF1A475Z	C CHIP 10V 4.7UF	
C708	ECEV1CA470S	ELECTROLYTIC CHIP 16V 47UF	
C709	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C710	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C901	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C902	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C904	ECJ2YB0J225K	C CHIP 6.3V 2.2UF	
C905	ECJ2YB1A105K	C CHIP 10V 1UF	
C906	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C907	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C908	ECJ1VB1A105K	C CHIP 10V 1UF	
C909	ECJ1VB1E223K	C CHIP 25V 0.022UF	
C910	ECJ1VB1A105K	C CHIP 10V 1UF	
C912	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C913	ECJ1VB0J334K	C CHIP 6.3V 0.33UF	
C914	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C915	ECJ1VB1A105K	C CHIP 10V 1UF	
C916	ECJ1VB1A105K	C CHIP 10V 1UF	
C917	ECJ1VB1H682K	C CHIP 50V 6800PF	
C918	VCUSJB335KB	C CHIP 6.3V 3.3UF	
C919	ECJ1VB1A105K	C CHIP 10V 1UF	
C920	ECJ1VB1A105K	C CHIP 10V 1UF	
C921	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C922	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C923	ECJ1VB1A105K	C CHIP 10V 1UF	
C1001	ECJ1VB1E223K	C CHIP 25V 0.022UF	
C1002	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C1003	ECJ1VC1H101J	C CHIP 50V 100PF	
C1004	ECJ1VB1E223K	C CHIP 25V 0.022UF	
C1005	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C1007	ECJ1VB1H222K	C CHIP 50V 2200PF	
C1009	ECJ1VB1H222K	C CHIP 50V 2200PF	
C1011	ECJ1VB1H153K	C CHIP 50V 0.015UF	
C1012	ECJ1VB1H222K	C CHIP 50V 2200PF	
C1013	ECJ2VF1C105Z	C CHIP 16V 1UF	
C1014	ECJ2VF1C105Z	C CHIP 16V 1UF	
C1016	ECJ1VB1H222K	C CHIP 50V 2200PF	
C1017	ECJ1VB1H153K	C CHIP 50V 0.015UF	
C1018	ECJ1VB1E223K	C CHIP 25V 0.022UF	
C1020	ECJ2FB1C105K	C CHIP 16V 1UF	
C1021	ECEV1CA470S	ELECTROLYTIC CHIP 16V 47UF	
C1022	ECJ3YB1C475K	C CHIP 16V 4.7UF	
C1023	ECJ2FB0J475K	C CHIP 6.3V 4.7UF	
C1024	ECST1AY475	TANTALUM CHIP 16V 4.7UF	
C1025	ECJ1VB1H471K	C CHIP 50V 470PF	

Ref. No.	Part No.	Part Name & Description	Remarks
C1026	ECJ2FB0J475K	C CHIP 6.3V 4.7UF	
C1028	ECJ1VB1H102K	C CHIP 50V 1000PF	
C1029	ECJ2FB1C105K	C CHIP 16V 1UF	
C1030	ECJ2VF1C105Z	C CHIP 16V 1UF	
C1031	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10UF	
C1032	ECJ2VF1C105Z	C CHIP 16V 1UF	
C1033	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C1034	ECJ2FB1C105K	C CHIP 16V 1UF	
C1035	ECJ2FB1C105K	C CHIP 16V 1UF	
C1036	ECJ1VB1H471K	C CHIP 50V 470PF	
C1037	FLJ0J4750004	C CHIP 6.3V0.47UF	
C1039	ECJ1VB1H102K	C CHIP 50V 1000PF	
C1040	ECJ2VF1C105Z	C CHIP 16V 1UF	
C1041	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10UF	
C1042	ECEV0JA470S	ELECTROLYTIC CHIP 6.3V 47UF	
C1044	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C1045	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1046	ECJ2VF1C105Z	C CHIP 16V 1UF	
C1049	ECJ1VB1H102K	C CHIP 50V 1000PF	
C1055	ECJ2VF1C105Z	C CHIP 16V 1UF	
C1060	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1065	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C1101	ECJ2FB1A225K	C CHIP 10V 22UF	
C1102	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C2001	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C2002	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C2003	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C2007	ECEV0JA220S	ELECTROLYTIC CHIP 6.3V 22UF	
C2008	ECJ2VB1E333K	C CHIP 25V 0.033UF	
C2010	ECJ1VB1C683K	C CHIP 16V 0.068UF	
C2011	ECJ2YB1C334K	C CHIP 16V 0.33UF	
C2012	ECJ1VB1C473K	C CHIP 16V 0.047UF	
C2013	ECJ1VB1C473K	C CHIP 16V 0.047UF	
C2015	ECJ1VB1H152K	C CHIP 50V 1500PF	
C2016	ECJ1VC1H561J	C CHIP 50V 560PF	
C2017	ECJ2YB1A105K	C CHIP 10V 1UF	
C2021	ECJ1VF1H473Z	C CHIP 50V 0.047UF	
C2022	ECJ2VF1E473Z	C CHIP 25V 0.047UF	
C2023	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C2024	ECJ2YB1A105K	C CHIP 10V 1UF	
C2025	ECJ1VB1E103K	C CHIP 25V 0.01UF	
C2030	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C2031	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C2032	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C2040	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10UF	
C2045	ECJ1VB1E103K	C CHIP 25V 0.01UF	
C2046	ECJ1VB1E103K	C CHIP 25V 0.01UF	
C3001	FLJ0J335A002	C CHIP 6.3V 3.3UF	
C3002	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3003	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C3005	ECJ1VC1H220J	C CHIP 50V 22PF	
C3006	ECJ1VB1H332K	C CHIP 50V 3300PF	
C3007	ECJ2VF1H104Z	C CHIP 50V 0.1UF	
C3008	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C3009	ECJ2VF1H104Z	C CHIP 50V 0.1UF	
C3010	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3011	ECJ1VC1H221J	C CHIP 50V 220PF	
C3012	ECJ1VB1H821K	C CHIP 50V 820PF	
C3013	ECJ1VC1H560J	C CHIP 50V 56PF	
C3014	ECJ1VC1H331J	C CHIP 50V 330PF	
C3015	ECJ1VC1H561J	C CHIP 50V 560PF	
C3017	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3018	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C3019	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3021	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C3022	ECJ2YB1A105K	C CHIP 10V 1UF	
C3023	ECJ1VB1C473K	C CHIP 16V 0.047UF	
C3024	ECJ2VF1C105Z	C CHIP 16V 1UF	
C3025	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C3028	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C3029	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C3030	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3031	ECJ1VB1A224K	C CHIP 10V 0.22UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C3032	ECJ1VB1H332K	C CHIP 50V 3300PF	
C3033	ECJ2YB0J225K	C CHIP 6.3V 2.2UF	
C3034	ECJ2VF1C105Z	C CHIP 16V 1UF	
C3036	FK1C4750017	C CHIP 16V 4.7UF	
C3038	ECJ1VC1H560J	C CHIP 50V 56PF	
C3039	ECJ1VC1H150J	C CHIP 50V 15PF	
C3040	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3041	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C3042	ECEVOJA220S	ELECTROLYTIC CHIP 6.3V 22UF	
C3043	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C3045	ECEVLHA3R3S	ELECTROLYTIC CHIP 50V 3.3UF	
C3046	ECEVOGA221S	ELECTROLYTIC CHIP 4V 220UF	
C3047	ECJ2YB1A105K	C CHIP 10V 1UF	
C3048	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3053	ECJ1VC1H390J	C CHIP 50V 39PF	
C3054	ECJ1VC1H101J	C CHIP 50V 100PF	
C3055	ECJ1VC1H181J	C CHIP 50V 180PF	
C3057	ECJ1VC1H180J	C CHIP 50V 18PF	
C3058	ECJ1VC1H120J	C CHIP 50V 12PF	
C3059	ECJ1VC1H100D	C CHIP 50V 10PF	
C3060	ECJ1VC1H120J	C CHIP 50V 12PF	
C3061	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3068	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3070	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C3072	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C3073	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C3074	ECEVOJA220S	ELECTROLYTIC CHIP 6.3V 22UF	
C3075	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C3077	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3078	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3079	ECJ1VB1H102K	C CHIP 50V 1000PF	
C3080	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3081	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3085	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C3098	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C3107	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3132	ECJ2VF1C105Z	C CHIP 16V 1UF	
C3135	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3139	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3150	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C3152	ECJ1VB1H681K	C CHIP 50V 680PF	
C3153	ECJ1VB1H681K	C CHIP 50V 680PF	
C3157	ECJ1VC1H470J	C CHIP 50V 47PF	
C3158	ECJ1VC1H080C	C CHIP 50V 8PF	
C4002	ECJ2FB1C105K	C CHIP 16V 1UF	
C4003	ECJ1VB1H102K	C CHIP 50V 1000PF	
C4004	ECUT2A472JCV	C CHIP 100V 4700PF	
C4005	ECJ2VB1H682K	C CHIP 50V 6800PF	
C4006	ECJ1VB1E223K	C CHIP 25V 0.022UF	
C4007	ECJ2FB1C105K	C CHIP 16V 1UF	
C4008	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C4009	ECJ2VF1H104Z	C CHIP 50V 0.1UF	
C4011	ECJ1VB1H472K	C CHIP 50V 4700PF	
C4012	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C4013	ECJ1VF1E104Z	C CHIP 25V 0.1UF	
C4014	ECJ1VF1E104Z	C CHIP 25V 0.1UF	
C4015	ECJ2VF1E104Z	C CHIP 25V 0.1UF	
C4016	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C4017	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C4019	ECJ2FB1C105K	C CHIP 16V 1UF	
C4021	ECEVLCA100S	ELECTROLYTIC CHIP 16V 10UF	
C4022	ECJ2YB1C474K	C CHIP 16V 0.47UF	
C4023	ECST0JY475	TANTALUM CHIP 6.3V 4.7UF	
C4026	ECJ2VB1C104K	C CHIP 16V 0.1UF	
C4027	ECJ1VB1H153K	C CHIP 50V 0.015UF	
C4028	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C4030	ECST0JY475	TANTALUM CHIP 6.3V 4.7UF	
C4031	ECJ1VB1H122K	C CHIP 50V 1200PF	
C4032	ECJ2FB1C105K	C CHIP 16V 1UF	
C4033	ECJ1VB1H272K	C CHIP 50V 2700PF	
C4034	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C4035	ECJ2VF1C105Z	C CHIP 16V 1UF	
C4036	ECJ2VF1C105Z	C CHIP 16V 1UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C4039	ECJ2VB1C104K	C CHIP 16V 0.1UF	
C4041	ECJ1VB1H222K	C CHIP 50V 2200PF	
C6001	ECJ1VC1H330J	C CHIP 50V 33PF	
C6002	ECJ1VB1A224K	C CHIP 10V 0.22UF	
C6004	ECJ2VF1C105Z	C CHIP 16V 1UF	
C6006	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C6007	ECJ1VC1H120J	C CHIP 50V 12PF	
C6008	ECJ1VC1H100D	C CHIP 50V 10PF	
C6009	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C6011	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C6013	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C6014	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C6017	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C6018	ECJ2VF1H104Z	C CHIP 50V 0.1UF	
C6020	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C6022	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C6023	ECJ1VB1H102K	C CHIP 50V 1000PF	
C6025	ECEVOJA470S	ELECTROLYTIC CHIP 6.3V 47UF	
C6028	ECJ1VC1H060D	C CHIP 50V 6PF	
C6029	ECJ2VF1C105Z	C CHIP 16V 1UF	
C6031	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C6044	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C6201	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C6202	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C6207	ECJ1VC1H101J	C CHIP 50V 100PF	
C6208	ECJ2VF1C224Z	C CHIP 16V 0.22UF	
C6214	ECJ1VB1H102K	C CHIP 50V 1000PF	
C6220	ECJ2YF1C155Z	C CHIP 16V 1.5UF	
C6221	ECJ1VB1H102K	C CHIP 50V 1000PF	
C6222	ECJ2YB1A105K	C CHIP 10V 1UF	
C6223	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C6225	ECJ1VB1H103K	C CHIP 50V 0.01UF	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L302	G1C470JA0041	COIL CHIP 47UH	
L303	G1C330JA0041	COIL CHIP 33UH	
L305	G1C3R9JA0041	COIL CHIP 3.9UH	
L307	G1C101JA0036	COIL CHIP 100HF	
L308	G1C100K00031	COIL CHIP 10UH	
L602	G1C150JA0041	COIL CHIP 15UH	
L605	G1C120JA0041	COIL CHIP 12UH	
L901	G1C150JA0041	COIL CHIP 15UH	
L1001	G1C100MA0112	COIL CHIP 10UH	
L1002	G1C100MA0112	COIL CHIP 10UH	
L1003	G1C330MA0112	COIL CHIP 33UH	
L1004	G1C330MA0112	COIL CHIP 33UH	
L1005	G1C100MA0065	CHOKE COIL 10UH	
L1006	G1C100MA0031	COIL CHIP 10UH	
L1007	G1C100MA0031	COIL CHIP 10UH	
L1008	G1C100MA0031	COIL CHIP 10UH	
L1009	G1C470JA0041	COIL CHIP 47UH	
L1010	G1C470JA0041	COIL CHIP 47UH	
L1011	G1C470JA0041	COIL CHIP 47UH	
L1012	G1C100MA0031	COIL CHIP 10UH	
L1014	G1C100MA0031	COIL CHIP 10UH	
L1015	G1C100MA0031	COIL CHIP 10UH	
L1017	G1C330MA0112	COIL CHIP 33UH	
L1019	G1C100MA0031	COIL CHIP 10UH	
L1020	G1C100MA0031	COIL CHIP 10UH	
L1600	J0JBC0000014	BEAD INDUCTOR	
L3001	G1C220K00013	COIL CHIP 22UH	
L3002	G1C220K00013	COIL CHIP 22UH	
L3003	G1C220K00013	COIL CHIP 22UH	
L3004	G1C220K00013	COIL CHIP 22UH	
L3006	G1C220K00013	COIL CHIP 22UH	
L3009	G1C820JA0041	COIL CHIP 82UH	
L3011	G1C470JA0041	COIL CHIP 47UH	
L3012	G1C120JA0041	COIL CHIP 12UH	
L3013	G1C331JA0036	COIL CHIP 330UH	
L3014	G1C180JA0041	COIL CHIP 18UH	
L3015	G1C331JA0036	COIL CHIP 330UH	
L3016	G1C470JA0041	COIL CHIP 47UH	

Ref. No.	Part No.	Part Name & Description	Remarks
L3017	G1C331JA0036	COIL CHIP 330UH	
L3030	G1C220K00013	COIL CHIP 22UH	
L3031	G1C470JA0041	COIL CHIP 47UH	
L4001	G1C221K00012	COIL CHIP 220UH	
L4002	G1C101K00033	COIL CHIP 100UH	

CRYSTAL OSCILLATOR

Ref. No.	Part No.	Part Name & Description	Remarks
X601	H0A286500001	CRYSTAL OSCILLATOR	
X3001	H0D143500033	CRYSTAL OSCILLATOR	
X6001	H0A143500002	CRYSTAL OSCILLATOR	
X6002	H0A327200095	CRYSTAL OSCILLATOR	

FPC CONNECTORS

Ref. No.	Part No.	Part Name & Description	Remarks
FP1	K1MN28B00060	CONNECTOR 28P	
FP2	K1MN14A00084	CONNECTOR 14P	
FP6	K1MN28B00060	CONNECTOR 28P	
FP7	K1MN14A00086	CONNECTOR 14P	
FP8	K1MN12A00070	CONNECTOR 12P	
FP9	K1MN22A00064	CONNECTOR 22P	
FP10	K1MN26A00058	CONNECTOR 26P	
FP11	K1MN06A00036	CONNECTOR 6P	
FP12	K1MN06B00116	CONNECTOR 6P	
FP13	K1MN16B00004	CONNECTOR 16P	
FP901	K1MN22B00095	CONNECTOR 22P	

FUSE & PROTECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
F1001	K5H252Z00003	FUSE CHIP 32V 2.5A	△
F1002	K5H202Z00005	FUSE CHIP 32V 2A	△

TRANSFORMER

Ref. No.	Part No.	Part Name & Description	Remarks
T1001	G5DYA0000042	TRANSFORMER	
T4001	EQQ7QE025Q	TRANSFORMER	

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
707	VMTS0035	CUSHION, RUBBER	
712	LSMF0220	SHEET, NYLON-RAYON	

13.3.3. BATTERY CATCHER C.B.A. NR

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D1204	B0BC02000011	DIODE ZENER CHIP 20V	
D1213	B0BC01200021	DIODE ZENER CHIP 12V	
D1215	B0BC02000011	DIODE ZENER CHIP 20V	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R1201	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4419	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R4420	ERJ3GEY0R00V	MGF CHIP 1/16W 0	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C1202	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C1203	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C4422	ECJ1VB1H222K	C CHIP 50V 2200PF	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L1201	J0JHC0000054	BEADS CORE	
L1212	J0JHC0000054	BEADS CORE	
L4421	J0JBC0000014	BEAD INDUCTOR	
L4422	J0JBC0000014	BEAD INDUCTOR	

FUSE & PROTECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
PR1201	K5H402Z00003	PROTECTOR CHIP	△

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
709	LSMX0188	SHEET, PET	

13.3.4. LIQUID CRYSTAL DISPLAY C.B.A.

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC9001	AN2545FHQ	IC, LINEAR	
IC9001	AN2545NFHQ	IC, LINEAR	
IC9002	COABAB000001	IC, LINEAR	

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q1203	UNR511200L	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1203	B1GDCFLL0012	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1203	B1GDCFLL0021	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1204	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q1204	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q1204	BLABCF000112	TRANSISTOR SI NPN CHIP	
Q1205	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q1205	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q1205	BLABCF000112	TRANSISTOR SI NPN CHIP	
Q1206	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q1206	BLADCF000063	TRANSISTOR SI PNP CHIP	
Q1206	BLADCF000075	TRANSISTOR SI PNP CHIP	
Q1208	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q1208	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q1208	BLABCF000112	TRANSISTOR SI NPN CHIP	
Q1209	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q1209	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q1209	BLABCF000112	TRANSISTOR SI NPN CHIP	
Q1211	UNR521300L	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q1211	B1GBCFNN0009	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q1211	B1GBCFNN0031	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q1213	BLABCF000098	TRANSISTOR SI NPN CHIP	
Q1213	BLABCF000099	TRANSISTOR SI NPN CHIP	
Q1214	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q1214	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q1214	BLABCF000112	TRANSISTOR SI NPN CHIP	
Q1215	UNR521200L	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q1215	B1GBCFLL0012	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q1215	B1GBCFLL0026	TRANSISTOR COMPLX CMP SI PNP CHIP	
Q9051	2SD11190RL	TRANSISTOR SI NPN CHIP	△
Q9051	BLABPC000007	TRANSISTOR SI NPN CHIP	△
Q9052	2SD11190RL	TRANSISTOR SI NPN CHIP	△
Q9052	BLABPC000007	TRANSISTOR SI NPN CHIP	△
Q9053	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q9053	BLADCF000063	TRANSISTOR SI PNP CHIP	
Q9053	BLADCF000075	TRANSISTOR SI PNP CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D1203	MAZ80560LL	DIODE ZENER CHIP 5.6V	
D1205	MAZ81000HL	DIODE ZENER CHIP 10V	
D1206	MAZ80680ML	DIODE ZENER CHIP 6.8V	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R1212	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R1213	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R1214	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1215	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R1216	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1217	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R1218	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1219	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R1220	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R1222	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R1225	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R1226	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R9004	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R9005	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R9006	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R9010	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R9011	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R9012	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R9013	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R9014	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R9015	ERJ3GEYJ123V	MGF CHIP 1/16W 12K	
R9016	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R9017	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R9018	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R9019	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R9020	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R9021	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R9022	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R9023	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R9024	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R9025	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R9026	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R9027	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R9028	ERJ3GEYJ163V	MGF CHIP 1/16W 16K	
R9029	ERJ3GEYJ912V	MGF CHIP 1/16W 9.1K	
R9032	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R9051	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R9052	ERJ8GEYJ102V	MGF CHIP 1/8W 1K	
R9054	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R9060	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
W1201	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
W1202	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
W1203	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W1204	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
W1205	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W1206	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W1207	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W1208	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
W1209	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W1210	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
W1211	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W1212	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W1215	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W1216	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W1217	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W1218	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W1219	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W1220	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W1221	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
W1222	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W9001	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9002	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9003	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W9004	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9005	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9006	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
W9007	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W9008	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9009	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W9010	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9011	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9012	ERJ8GEY0R00V	MGF CHIP 1/8W 0	

Ref. No.	Part No.	Part Name & Description	Remarks
W9013	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9014	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W9015	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W9016	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9017	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9018	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W9019	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W9020	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W9021	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W9022	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9023	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
W9024	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9025	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9026	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9027	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9028	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
W9029	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9030	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
W9031	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W9051	ERJ3GEY0R00V	MGF CHIP 1/16W 0	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C1205	ECJ1VB1H222K	C CHIP 50V 2200PF	
C1206	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C1207	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C1208	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C1209	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C1210	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C1211	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C9003	ECST0JY475	TANTALUM CHIP 6.3V 4.7UF	
C9007	ECJ1VF1A105Z	C CHIP 10V 1UF	
C9008	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C9009	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C9010	ECJ1VB1H681K	C CHIP 50V 680PF	
C9011	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C9012	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C9013	VCUSJB225KB	C CHIP 6.3V 2.2UF	
C9014	ECJ1VB1H152K	C CHIP 50V 1500PF	
C9015	ECST0JY475	TANTALUM CHIP 6.3V 4.7UF	
C9016	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C9017	ECJ1VB1A105K	C CHIP 10V 1UF	
C9018	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C9019	ECST1CY475	TANTALUM CHIP 16V 4.7UF	
C9020	ECJ1VB1A105K	C CHIP 10V 1UF	
C9021	ECJ1VB1A105K	C CHIP 10V 1UF	
C9022	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C9023	F1K1C2250005	C CHIP 16V 2.2UF	
C9024	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C9025	ECJ1VC1H151J	C CHIP 50V 150PF	
C9026	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C9028	F1J1C1050011	C CHIP 16V 1UF	
C9029	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C9031	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C9032	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C9051	ECJ4YB1A106K	C CHIP 10V 10UF	
C9052	ECHU1H153JB5	C CHIP 50V 0.015UF	
C9053	F1K3D150A003	C CHIP 2KV 15PF	
C9054	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C9055	F1K3D150A003	C CHIP 2KV 15PF	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L1202	ELJFA150KF	COIL 15UH	
L1203	G1C100MA0082	COIL CHIP 10UH	
L9001	G1C150JA0041	COIL CHIP 15UH	
L9003	G1C150JA0041	COIL CHIP 15UH	
L9005	G1C150JA0041	COIL CHIP 15UH	
L9006	G1C150JA0041	COIL CHIP 15UH	
L9007	G1C150JA0041	COIL CHIP 15UH	
L9051	G1C680M00011	COIL CHIP 68UH	△

FPC CONNECTORS

Ref. No.	Part No.	Part Name & Description	Remarks
FP1201	K1MN21B00002	CONNECTOR 21P	
FP9001	K1MN24B00080	CONNECTOR 24P	

FUSE & PROTECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
PR9051	K5H1022A0003	FUSE 32V 1A	

TRANSFORMER

Ref. No.	Part No.	Part Name & Description	Remarks
T9051	ETJV10ZA17AF	TRANSFORMER	△

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
706	LSMZ0342	INSULATION SHEET, PLASTIC	